In the United States Court of Federal Claims

No. 19-859
(Filed: 7 August 2020)

E-NUMERATE SOLUTIONS, INC. *et al*,	*	
	*	
Plaintiffs,	*	Patent Infringement; RCFC 12(b)(6);
	*	Motion to Dismiss; 35 U.S.C. § 101;
v.	*	Patent-ineligible Subject Matter;
	*	Abstract Idea.
THE UNITED STATES,	*	
	*	
Defendant.	*	
	*	

Sean T. O'Kelly, of O'Kelly Ernst & Joyce, LLC, with whom was *Gerard M. O'Rourke*, of O'Rourke Law Office, LLC, both of Wilmington, DE, for plaintiffs.

Scott D. Bolden, Deputy Director, Commercial Litigation Branch, Civil Division, Department of Justice, with whom were *Joseph H. Hunt*, Assistant Attorney General, *Gary L. Hausken*, Director, *Shahar Harel*, of counsel, Department of Justice, and *Richard M. Humes*, Assistant General Counsel, *George C. Brown*, Assistant General Counsel, *Nelson Kuan*, Senior Counsel, Office of the General Counsel, U.S. Securities and Exchange Commission, all of Washington, DC, for defendant.

OPINION AND ORDER

HOLTE, **Judge**.

Plaintiffs accuse the government of infringing seven United States patents through various agencies, including the Securities and Exchange Commission ("SEC"). The government filed a motion to dismiss for failure to state a claim under Rule 12(b)(6) of the Rules of the Court of Federal Claims ("RCFC"), alleging the asserted patents are invalid under 35 U.S.C. § 101 for claiming patent-ineligible subject matter. This case was transferred to the undersigned Judge on 9 December 2019. After briefing concluded, the Court held oral argument on the government's motion to dismiss on 5 May 2020. For the following reasons, the Court **DENIES** the government's motion to dismiss under RCFC 12(b)(6).

I. Overview and Procedural History

Plaintiffs e-Numerate Solutions, Inc. ("ESI") and e-Numerate, LLC ("e-Numerate") bring this patent infringement action against the government under 28 U.S.C. § 1498(a). Compl. ¶ 7, ECF No. 1. "ESI is the owner of record and assignee" of the following United States patents: 7,650,355 ("the '355 patent" or "'355 Patent"); 8,185,816 ("the '816 patent"); 9,262,383 ("the

'383 patent"); 9,262,384 ("the '384 patent"); 9,268,748 ("the '748 patent"); 9,600,842 ("the '842 patent"); and 10,223,337 ("the '337 patent"). *Id.* ¶ 3. These seven patents belong to two separate patent families: the '355, '816, '383, '384, '784, and '337 patents all claim priority to provisional patent application numbers 60/135,525 and 60/183,152 ("the '355 patent family"); and the '842 patent claims priority to provisional patent application number 60/263,518 ("the '842 patent family"). Def. United States of America's Mot. to Dismiss Under Rule 12(b)(6) at 6–8, ECF No. 8 ("Gov't MTD"). The seven patents assigned to ESI are hereinafter collectively referred to as "the asserted patents." "Plaintiff e-Numerate, LLC is the exclusive licensee of the Asserted Patents." Compl. ¶ 4. ESI and e-Numerate are hereinafter collectively referred to as "plaintiffs."

The asserted patents relate generally to improvements in computer software and data markup language. *Id.* ¶ 13. "A markup language is a system for inserting information about the formatting and display of a group of text characters by placing non-displayed 'markup' text before and after the group of text characters." *Id.* ¶ 15b. The asserted patents introduced Reusable Data Markup Language ("RDML") as an alternative to the two commonly-used prior art methods: Hyper Text Markup Language ("HTML") and Extensible Markup Language ("XML"). *Id.* ¶16. According to plaintiffs, the improvements associated with RDML "allowed numbers to be substantively treated as the numerical values they represent" resulting in vast improvement to "a user's ability to identify, manipulate, compare, convert and process numbers in software like never before." *Id.* ¶ 14.

Plaintiffs previously "filed a lawsuit in the United States District Court for the District of Delaware against Mattress Firm Holding Corp. ("Mattress Firm")" on 11 July 2017. Compl. ¶ 8. Plaintiffs alleged infringement of the '355, '816, '383, and '748 patents (hereinafter the "Delaware district court litigation"). *Id.* Plaintiffs filed an amended complaint adding allegations against Merrill Communications LLC and Merrill Corporation (collectively, "Merrill") as defendants. *Id.* ¶ 9. According to plaintiffs, various private parties either used eXtensible Business Reporting Language ("XBRL") to file reports with the SEC or developed software to assist others in filing reports in XBRL with the SEC. *Id.* Specifically, plaintiffs allege Merrill "marketed [a] product to assist companies in filing reports in [XBRL] with the SEC." Compl. ¶ 28. Plaintiffs further allege "Mattress Firm uses [XBRL] to routinely file documents with [the SEC]." *Id.* ¶ 30. "The Merrill Bridge product is representative of software and services provided by various service providers to assist their customers with SEC filings . . . [and] [t]he Mattress Firm SEC filing is representative of filings made by SEC filers." *Id.* ¶¶ 31, 32.

On or about 12 July 2018, "Merrill filed petitions for *inter partes* review ('IPR') at the Patent Trial and Appeal Board ('PTAB') . . . against claims of the four patents asserted in the [Delaware district court litigation]." Gov't MTD at 3. The government, through the Department of Justice at the request of the SEC, filed a "Statement of Interest" in the Delaware district court litigation on 19 October 2018. *Id.* at 2; Compl. ¶ 10. The PTAB instituted a series of IPRs as to the challenged claims on 13 February 2019. Gov't MTD at 3. After Merrill withdrew their petition from the IPR proceedings, however, "[t]he PTAB terminated the IPRs" on 25 July 2019. *Id.* Though the IPRs were instituted against claims not asserted in the present litigation, plaintiffs indicated they "intend[] to amend [their] Complaint to assert the claims involved in the IPRs against the Government now that the IPRs have been dismissed with prejudice." Pls.' Brief

in Opp'n to the United States' Motion to Dismiss Under Rule 12(b)(6) at 5–6, ECF No. 15 ("Pls.' Opp'n to MTD").

The government's statement of interest confirms the government "granted its authorization and consent to the extent the Defendants use XBRL to file documents with the SEC pursuant to federal regulation." Compl. ¶ 10. "XBRL is the open international standard for digital business reporting, managed by a global not for profit consortium." An Introduction to XBRL, https://www.xbrl.org/the-standard/what/an-introduction-to-xbrl/ (last visited August 7, 2020). The non-government plaintiffs in the district court action either "marketed [a] product to assist companies in filing reports in the [XBRL] with the SEC" or "use[] the [XBRL] standard to routinely file documents with [the SEC]." Compl. ¶¶ 28, 30. Plaintiffs assert the government's statement of interest thus "assumed all liability for patent infringement by third-party vendors . . . that use, sell, provide third party services and/or host software used to assist companies that file documents using XBRL with the SEC." *Id.* ¶ 12. The Delaware district court litigation was dismissed 19 November 2018 as a result of the government's statement of interest. Gov't MTD at 2.

Plaintiffs filed the complaint in the present case on 11 June 2019. *See* Compl. The government responded by filing a motion to dismiss on 11 October 2019. *See* Gov't MTD. The government's motion seeks to dismiss plaintiff's complaint for failure to state a claim upon which relief can be granted under RCFC 12(b)(6), alleging the asserted patents are invalid as a matter of law under 35 U.S.C. § 101 for being directed to an abstract idea. *See* Gov't MTD at 1. This case was transferred to the undersigned judge on 9 December 2019. *See* Order, ECF No. 11. Plaintiff filed an opposition to the government's motion to dismiss on 20 December 2019. *See* Pls.' Opp'n to MTD. The government filed its reply brief in support of its motion to dismiss on 24 January 2020. *See* Def.'s Reply in Supp. of Mot. to Dismiss Under Rule 12(b)(6), ECF No. 19 ("Gov't Reply"). The Court held oral argument on the government's motion to dismiss on 5 May 2020. *See* Tr., ECF No. 26.

II. Factual History and Technology[1]

a. Prior Art Systems

Plaintiffs began developing computer software technology in the late 1990s addressing an alleged "need for the intelligent identification and processing of numerical information on the Internet." Compl. ¶ 14. According to plaintiffs, prior art systems at the time, including HTML and XML, faced three key limitations: (1) "there was no way of distinguishing . . . numerical data from text;" (2) "data and analytic routines were not standardized;" and (3) "calculations occurred at too low a conceptual level." *Id.* at ¶ 15. Plaintiffs' technology "allowed numbers to

[1] The Court draws the following facts from plaintiffs' complaint and the asserted patents and assumes for the purposes of this motion all alleged facts are true. *See, e.g.*, *Boyle v. United States*, 200 F.3d 1369, 1372 (Fed. Cir. 2000) (stating when ruling on a motion to dismiss for failure to state a claim, this Court "must accept all well-pleaded factual allegations as true and draw all reasonable inferences in [the nonmovant's] favor").

be substantively treated as the numerical values they represent." *Id.* at ¶ 14. Plaintiffs provide the following overview of how data markup language generally operates:

> Internet browsers interpret and display documents formatted in HTML. In order to distinguish the text characters to be displayed from the information describing how the text characters are to be formatted, "annotations" that are not visible to the viewer of the displayed document are added to the document. The HTML specification describes the use of a markup language to include these non-displayed annotations. A markup language is a system for inserting information about the formatting and display of a group of text characters by placing non-displayed "markup" text before and after the group of text characters. These markups, commonly known as "tags" in online and other documents in digital format, describe the structure and formatting of digital documents and instruct computer systems on how to display them.

Id. ¶ 15.b.

As HTML only works with text and images, "[t]here is no HTML tag capable of annotating the context or meaning of numerical data appearing in a markup document for computer systems to interpret these numerical data as numbers representing a particular type of information instead of a simple string of text characters." *Id.* ¶ 15.c. This results in certain setbacks when using HTML for specific applications, such as preparation of a financial disclosure. For example, web browsers utilizing HTML tags may "display documents containing numbers, but the HTML tags do not enable computer systems to run analytical applications that read, manipulate, combine, compare, transform or analyze the numbers, load them into a spreadsheet, or display them in a graph, directly from multiple online sources." *Id.* ¶ 15.c.

XML was originally designed "to help overcome some of HTML's limitations." Compl. ¶ 15.d. Rather than include sets of "pre-defined tags," XML "is a specification that governs the creation of tags by particular users or groups." *Id.* Functionally, XML gives individual developers the ability "to create their own individual markup languages." *Id.* At the time of the inventions embodied in the asserted patents, "no set of XML tags had been promulgated for general use, so any XML tag taxonomy created by one user would not be compatible with the taxonomies created by other users." *Id.* The lack of standardization in XML "left users with no way to manipulate, combine, compare, transform or analyze numerical data from singular or multiple online sources using differing custom-created XML tag taxonomies." *Id.* "Prior art at the time of filing of the [asserted patents] did not provide a mechanism to identify numerical data element attributes, characteristics, formats or relationships." *Id.* ¶ 18.a.

b. Prosecution History

In response to these apparent shortcomings in the prior art, plaintiffs developed Reusable Data Markup Language ("RDML"). Compl. ¶ 16. RDML "allow[s] users for the first time to easily view, compare and analyze numerical data on the Internet." *Id.* Among the specific technical advantages supplied by RDML are: (1) "[p]airing the metadata directly with the numerical data in machine-readable form so the numerical data could be easily identified and

used in different program applications;" (2) "[d]efine[d] standards for both data formats and analytic routines;" (3) "[e]nhanced analytical calculation power by creating data objects at the line item and document levels;" and (4) "provid[ing] RDML tags for data characteristics that HTML lacked and suppl[lying] a set of tags for content and meaning of numbers for general use missing in XML." *Id.* Accompanying the invention of RDML was a "suite of software applications . . . developed to create documents with RDML tag markups" and manipulate and display the data. *Id.* The result of these improvements in the aggregate was a tool "that could automatically associate individual accounting data items with the appropriate sections of the organization's financial statements." *Id.* ¶ 17.a.

All of the patents in the '355 patent family claim priority to two provisional patent applications: application no. 60/135,525, filed 21 May 1999; and application no. 60/183,152, filed 17 February 2000. *See, e.g.*, U.S. Patent No. 7,650,355 to Davis at Cover Page. The '355 patent, filed 18 May 2000, was the first patent filed and granted in either of the asserted patent families. *Id.* The '355 patent underwent nearly 10 years of prosecution with the United States Patent and Trademark Office ("USPTO"). *Id.* During the majority of this time, from 1998 to 2008, the § 101 patent eligibility standard was governed by the Federal Circuit's decision in *State Street Bank & Tr. Co. v. Signature Fin. Grp.*, 149 F.3d 1368 (Fed. Cir. 1998). The *State Street* standard for § 101 patent-eligible subject matter was historically broad, with the Federal Circuit noting "the Supreme Court has acknowledged that Congress intended § 101 to extend to 'anything under the sun that is made by man.'" *Id.* at 1373 (quoting *Diamond v. Chakrabarty*, 447 U.S. 303, 309 (1980)).

Under the *State Street* standard, the '355 patent was initially rejected for attempting to claim patent-ineligible subject matter, with the patent examiner finding: "the language of the claim raises a question as to whether the claim is directed merely to an abstract idea that is not tied to a technological art, environment or machine which would result in a practice application producing a concrete, useful, and tangible result to form the basis of statutory subject matter under 35 U.S.C. [§] 101." Gov't MTD at A104 (non-final office action of 21 December 2005 rejecting claims of the '355 patent). Plaintiffs relied on the broad *State Street* standard of patent-eligible subject matter to overcome the examiner's rejections, adopting the examiner's suggestion to add the following language to claim 1: "[a] computer-implemented method of processing tagged numerical data . . . ." *Id.* at A128 (response to non-final office action dated 28 March 2006). Plaintiffs then further amended claim 1 by adding the following language: "displaying the results of the operation." *Id.* at A148 (response to final office action dated 30 August 2006). In addition to other amendments made to claim 1 during prosecution, the '355 patent eventually issued on 19 January 2010.[2] *See* '355 Patent at Cover Page. The '816 patent subsequently issued while the § 101 patent eligibility framework was in flux: after the Supreme Court's decision in *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66 (2012), but prior to the most recent decision in *Alice Corp. Pty. v. CLS Bank Int'l*, 573 U.S. 208 (2014).

[2] Although the '355 patent did not issue until early 2010, by which time the Federal Circuit had abrogated the *State Street* standard for patent eligibility through the 2008 *In re Bilski* decision, the office action and claim amendments pertinent to the Court's § 101 analysis occurred in 2005 and 2006, while *State Street* was still controlling law regarding § 101 patent eligibility. 545 F.3d 943 (Fed. Cir. 2008).

Pls.' Opp'n to MTD at 9. The remaining five asserted patents, however, "were all prosecuted and allowed by the USPTO after *Alice* and *Mayo* were issued." *Id.* (emphasis omitted).

The remaining patents, both in the '355 patent family and the '842 patent family, introduced further technological limitations and adaptations to RDML. For example, the '816 and '383 patents introduced the ability to combine multiple data sets by way of converting the numerical values to a common format. *See* U.S. Patent No. 8,185,816 to Davis at col. 55:5–32; U.S. Patent No. 9,262,383 to Davis at col. 143:1–41. Certain claims of the '748 and '842 patents introduced data validation steps based on a series of predefined rules. *See* U.S. Patent No. 9,268,748 to Davis at col. 141:1–57; U.S. Patent No. 9,600,842 to Davis at col. 83:28–84:35. Finally, the '384 and '337 patents, in addition to certain claims of the '748 patent, introduced a report generating function to RDML. *See* U.S. Patent No. 9,262,384 to Davis at col. 93:25–94:32; U.S. Patent No. 10,223,337 to Davis at col. 111:10–112:15; U.S. Patent No. 9,268,748 to Davis at col. 143:5–144:6.

c. Alleged Improvements Over the Prior Art

At a high level, RDML "provided RDML tags for data characteristics that HTML lacked and supplied a set of tags for content and meaning of numbers for general use missing in XML." Compl. ¶ 16.c.i. The asserted patents claim to "solve[] these HTML- and XML-related problems with unique tools that allowed users for the first time to easily view, compare, and analyze numerical data on the Internet." *Id.* ¶ 16. RDML was designed to function through

> [a] suite of software applications . . . developed to create documents with RDML tag markups, read or parse the RDML documents, display them as graphs or in tree views, combine and compare data from multiple online sources, and manipulate, transform and analyze numerical data from multiple online sources. RDML permits the browsing and manipulation of numbers, and allows the "RDML Data Viewer" to act as a combination Web browser and spreadsheet/analytic application that automatically read numbers from multiple online sources, understand their meaning, and manipulate them without human intervention.

Id. ¶ 16.c.ii. The tags operate by encoding information about the respective numbers. *Id.* ¶ 16.c.iii. "The encoded information is connected with the numbers themselves and the tags move with the numbers when the numbers are ported." *Id.* The asserted patents implemented a "dramatically different approach than previously used, which was to keep document metadata and data itself separate from each other," by "[p]airing the metadata directly with the numerical data in machine-readable form so the numerical data could be easily identified and used in different program applications." *Id.* ¶ 16.a. This allowed plaintiffs' technology to "overcome the limitations of traditional spreadsheets which operate only at the cell (single number) level" by "[e]nhanc[ing] analytical calculation power by creating data objects at the line item and document levels." Compl. ¶ 16.c. The invention embodied in the asserted patents was

> invented prior to the creation of the XBRL standard. Prior art, as embodied in HTML and XML at the time of the filing of the [asserted patents], did not provide any metadata . . . beyond simple display formatting. Without these attributes and

> characteristics, it was not possible for a human or a computer to select, process, combine or output data elements without resorting to human intervention to find, associate and take into account how the appropriate attributes and characteristics would affect the selection, processing, combination and outputting activities.

Id. ¶ 17.a. This "provide[s] a mechanism to capture and utilize" the "automated display of structured data using HTML or XML." *Id.* ¶ 17.c. Additionally, it "provide[s] the ability to analyze and share [the semantic meaning of the numerical data elements] among manual and automated information systems by recording both semantic meaning and macros that embody logical tests to select the appropriate processing based on this and other data elements contained in the document." *Id.* ¶ 19. "RDML standardizes the recording of [computational steps] in a 'macro' that includes the identification of the specific data items that these steps apply to by specifying the data element metadata needed to determine which data elements are to be selected and how they are to be processed given their individual attributes and characteristics." *Id.* ¶ 20. RDML then "stores this information in a 'Second Document' (i.e., external file) that is accessible on the Internet so that it can be used by any process related to the specific data elements involved." *Id.*

The government notes on several occasions "[t]he specification explain[s] that the purported invention would typically replace data manipulations done 'by hand.'" Gov't MTD at 7 (quoting '355 Patent at col. 12:27–30). Such "hand calculations" are noted in plaintiffs' complaint: "[b]efore the introduction of the inventions contained in the [asserted patents], the preparation of financial statements involved the manual selection, analysis, combination and outputting of numerical data items based on the best efforts of the organization's senior accountants and later accepted as appropriate by Certified Public Accountants." Compl. ¶ 17.b. The specification of the asserted patents address this, providing:

> a mechanism to capture the metadata required to identify the attributes and characteristics of each numerical data element, and thereby allow the automated selection of the appropriate analytic routines based on the metadata associated with those analytical routines. . . . Just as the "dial telephone" enhanced the efficiency and ease of use of the telephone system beyond that experienced when human operators were necessary to make a telephone call, the RDML Data Viewer provides for the automated creation and sharing of the metadata necessary for information systems (manual or computerized) to more efficiently share and use complex structured information without the necessity for manual creation of "mappings" each time a new pair of information systems need to share information.

Id. ¶ 17.b, 18.b.

The complaint, however, further discusses specific technological limitations of such hand calculations. For example, "[p]rior art before the filing of the [asserted patents] would not encode the metadata necessary for a human or automated process to unambiguously identify the attributes and characteristics of similarly named numerical data elements so that these differing data elements could be combined to yield an identified result." *Id.* ¶ 21. "Without defined standards for capturing and accessing both numerical data attributes and characteristics, the

selection of appropriate data formats and analytic routines could not be performed automatically by either human or machine." *Id.* ¶ 17.b. Additionally,

> [w]ithout the semantic relationship capabilities invented by the [asserted patents], a human could not unambiguously locate these recorded steps by hand. Even if a human was provided with a document containing the processing steps, prior art did not provide for the encoding of the necessary metadata needed to ensure that, based on the attributes and characteristics of the data elements to be combined, they would qualify for the application of the selected process.

Id. ¶ 21.

The role of the "semantic tags" in the asserted patents, according to plaintiffs, plays an important role in processing necessary metadata because:

> the term "semantic tags" indicates that, in addition to the association of a descriptive "name" with a data item . . . , additional attributes and characteristics information is recorded. These additional attributes and characteristics provide semantic meaning, allowing the RDML Data Viewer to select, analyze, process and output results based on information stored in universally accessible "Second Documents" stored on the Internet.

Id. ¶ 22. Though noting the importance of the semantic tags, plaintiffs are clear that "the [asserted patents] do not claim the invention of semantic tags." Compl. ¶ 22. Rather, "RDML invented the *use* of semantic tags to enable the unambiguous selection, analysis, processing and outputting of information based on the information contained in the semantic tags." *Id.* (emphasis added).

Plaintiffs further identify certain differences between RDML and XML. The asserted patents "are not simply a 'dialect' of XML, rather they utilize the XML-compliant document format as a platform for deploying the inventive concepts in a manner that is universally accessible on the Internet." *Id.* ¶ 24. "Without the [asserted patents'] claimed invention to semantically link the XML 'character data entities' . . . to external 'Second Documents,' a human would not have access to the selection, macro, output and document combination information contained in the 'Second Documents' needed to be able to perform these inventions by hand." *Id.* ¶ 27.

III. Applicable Law

a. Standard of Review for Motion to Dismiss Pursuant to RCFC 12(b)(6)

A defendant may seek dismissal of an action for failure to allege "enough facts to state a claim to relief that is plausible on its face." *Bell Atl. Corp. v. Twombly*, 550 U.S. 544, 570 (2007). Facial plausibility requires the plaintiff to plead "factual content that allows the court to draw the reasonable inference that the defendant is liable for the misconduct alleged." *Ashcroft v. Iqbal*, 556 U.S. 662, 678 (2009). This requires "more than a sheer possibility that a defendant

has acted unlawfully." *Id.* "Threadbare recitals of the elements of a cause of action, supported by mere conclusory statements, do not suffice." *Id.* When deciding a motion to dismiss under RCFC 12(b)(6) for failure to state a claim upon which relief can be granted, the Court "must accept well-pleaded factual allegations as true and must draw all reasonable inferences in favor of the claimant." *Athey v. United States*, 908 F.3d 696, 705 (Fed. Cir. 2018) (quoting *Bell/Heery v. United States*, 739 F.3d 1324, 1330 (Fed. Cir. 2014)). However, the Court is "not required to accept the asserted legal conclusions." *Am. Bankers Ass'n v. United States*, 932 F.3d 1375, 1380 (Fed. Cir. 2019) (citing *Iqbal*, 556 U.S. at 678).

b. Patent Eligibility Pursuant to 35 U.S.C. § 101

"A patent shall be presumed valid. . . . The burden of establishing invalidity of a patent or any claim thereof shall rest on the party asserting such invalidity." 35 U.S.C. § 282(a). Issued patents grant the patentee "certain exclusive rights," which may be enforced through civil actions for infringement pursuant to 35 U.S.C. § 271. *Microsoft Corp. v. I4I Ltd. P'ship*, 564 U.S. 91, 96 (2011). Patent-eligible subject matter is prescribed in 35 U.S.C. § 101: "any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof." Additionally, there are important implicit exceptions to § 101: "Laws of nature, natural phenomena, and abstract ideas are not patentable." *Alice*, 573 U.S. at 216 (quoting *Ass'n for Molecular Pathology v. Myriad Genetics, Inc.*, 569 U.S. 576, 589 (2013)). To allow the patentability of such "basic tools of scientific and technological work" would run the risk of "'inhibit[ing] further discovery by improperly tying up the future use of' these building blocks of human ingenuity." *Id.* (first quoting *Myriad*, 569 U.S. at 576; then quoting *Mayo*, 566 U.S. at 85).

When the accused patent infringer is the United States, the action is brought under 28 U.S.C. § 1498, which waives the government's sovereign immunity for claims of patent infringement. *See Zoltek Corp. v. United States*, 672 F.3d 1309, 1315–17 (Fed. Cir. 2012). Alleged infringers, including the United States, may assert various defenses to patent infringement, such as asserting the invalidity of a patent. *See Microsoft Corp.*, 564 U.S. at 96. When challenging the validity of an issued patent, the alleged infringer must overcome the statutory presumption of validity.[3] *Id.* at 97. Attempts to overcome the presumption of validity must be shown by "clear and convincing evidence." *Id.*

"Patent eligibility under § 101 presents an issue of law," *Accenture Glob. Servs., GmbH v. Guidewire Software, Inc.*, 728 F.3d 1336, 1340 (Fed. Cir. 2013), which can therefore "be determined at the Rule 12(b)(6) stage." *Aatrix Software, Inc. v. Green Shades Software, Inc.*, 882 F.3d 1121, 1125 (Fed. Cir. 2018). When evaluating claims for patent-eligible subject matter, the Court uses a two-part test established by the Supreme Court, commonly referred to as the

[3] Issued patents receive the benefit of a "presumption recogniz[ing] the deference that is due to a qualified government agency presumed to have performed its job correctly. In this context, for example, the court presumes that examiners have some expertise in interpreting the prior art and are familiar with the level of skill in the art." David O. Taylor, *Clear But Unconvincing: The Federal Circuit's Invalidity Standard*, 21 Fordham Intell. Prop. Media & Ent. L.J. 293, 312 (2011) (citing *Al-Site Corp. v. VSI Int'l, Inc.*, 174 F.3d 1308, 1323 (Fed. Cir. 1999) ("The presumption of validity under 35 U.S.C. § 282 carries with it a presumption that the Examiner did his duty and knew what claims he was allowing.") (internal quotation marks omitted)).

"*Alice*/*Mayo*" test for the two cases from which it was derived. Step one determines "whether the claims at issue are directed to one of [the] patent-ineligible concepts." *Alice*, 573 U.S. at 217 (citing *Mayo*, 556 U.S. at 76–78). Step two considers "the elements of each claim both individually and 'as an ordered combination' to determine whether the additional elements 'transform the nature of the claim' into a patent-eligible application." *Id.* (quoting *Mayo*, 566 U.S. at 78–79). The Supreme Court describes step two as the search for an "inventive concept." *Id.* (quoting *Mayo*, 566 U.S. at 72).

When addressing the patent eligibility of multiple asserted claims, the Court may designate a representative claim or claims where the parties are unable to reach an agreement. *Berkheimer v. HP Inc.*, 881 F.3d 1360, 1365 (Fed. Cir. 2018) (citing *Elec. Power Grp. v. Alstom S.A.*, 830 F.3d 1350, 1352 (Fed. Cir. 2016)) ("Courts may treat a claim as representative in certain situations, such as if the patentee does not present any meaningful argument for the distinctive significance of any claim limitations not found in the representative claim or if the parties agree to treat a claim as representative."); *see also Mortgage Grader, Inc. v. First Choice Loan Servs. Inc.*, 811 F.3d 1314, 1324 n.6 (Fed. Cir. 2016) ("Although there was neither an agreement by the parties nor a finding by the district court that any of the asserted claims is representative for purposes of the § 101 analysis, there is also no contention that the claims differ in any manner that is material to the patent-eligibility inquiry. We have no need to address the four asserted claims individually."). A single claim may serve as representative for multiple asserted patents. *See, e.g.*, *Alice*, 573 U.S. at 212 n.1, 213 n.2 (treating a single method claim as representative of all asserted method claims from four patents); *Two-Way Media Ltd. v. Comcast Cable Commc'ns, L.L.C.*, 874 F.3d 1329, 1333 (Fed. Cir. 2017) ("Claim 1 of the '187 patent is representative of all claims of the '187 patent and '005 patent"); *Mortgage Grader*, 811 F.3d at 1318 (treating a single claim as representative for all asserted claims of the two patents at issue). The two-step *Alice* framework is then applied to the representative claim or claims. *Two-Way Media*, 874 F.3d at 1337.

Step one requires an examination focusing on the "claimed advance over the prior art to determine if the claim's character as a whole is directed to excluded subject matter." *Affinity Labs of Tex., L.L.C. v. DIRECTV L.L.C.*, 838 F.3d 1253, 1257 (Fed. Cir. 2016) (internal quotation marks omitted). The Federal Circuit has provided helpful guidance for performing the step one inquiry. First, the claims are "considered in light of the specification." *Enfish, L.L.C. v. Microsoft Corp.*, 822 F.3d 1327, 1335 (Fed. Cir. 2016). Second, any advances or advantages over the prior art may be considered. *See Genetic Techs. Ltd. v. Merial L.L.C.*, 818 F.3d 1369, 1375 (Fed. Cir. 2016). Finally, a comparison to claims found eligible or ineligible in prior cases may be useful. *See Enfish*, 822 F.3d at 1334 ("[B]oth [the Federal Circuit] and the Supreme Court have found it sufficient to compare claims at issue to those claims already found to be directed to an abstract idea in previous cases."); *see also Amdocs (Israel) Ltd. v. Openet Telecom, Inc.*, 841 F.3d 1288, 1294 (Fed. Cir. 2016) ("[T]he decisional mechanism courts now apply is to examine earlier cases in which a similar or parallel descriptive nature can be seen—what prior cases were about, and which way they were decided."). "In cases involving software innovations, this inquiry often turns on whether the claims focus on specific asserted improvements in computer capabilities or instead on a process or system that qualifies an abstract idea for which computers are invoked merely as a tool." *Uniloc USA, Inc. v. LG Elecs. USA, Inc.*, 957 F.3d 1303, 1306 (Fed. Cir. 2020).

At step two, the claims are analyzed for any "additional features" constituting an "inventive concept," despite being "directed to an abstract idea." *Affinity Labs*, 838 F.3d at 1262 (quoting *Alice*, 573 U.S. at 221). Any "additional features" identified "must be more than 'well-understood, routine, conventional activity.'" *Id.* (quoting *Mayo*, 566 U.S. at 79). "[S]imply appending conventional steps, specified at a high level of generality, to laws of nature, natural phenomena, and abstract ideas cannot make those laws, phenomena, and ideas patentable." *Mayo*, 566 U.S at 82. If the "only 'inventive concept' is the application of an abstract idea using conventional and well-understood techniques, the claim has not been transformed into a patent-eligible application of an abstract idea." *Cellspin Soft, Inc. v. Fitbit, Inc.*, 927 F.3d 1306, 1316 (Fed. Cir. 2019) (quoting *BSG Tech. L.L.C. v. Buyseasons, Inc.*, 899 F.3d 1281, 1290–91 (Fed. Cir. 2018)).

The Federal Circuit has restricted the invalidation of patents on a 12(b)(6) motion to dismiss to instances when "there are no factual allegations that, taken as true, prevent resolving the eligibility question as a matter of law." *Aatrix*, 882 F.3d at 1125. At this stage, "not every § 101 determination contains genuine disputes over the underlying facts material to the § 101 inquiry." *Berkheimer*, 881 F.3d at 1368. While determining patent eligibility is a matter of law, it "may contain disputes over underlying facts." *Id.* "Whether the claim elements or the claimed combination are well-understood, routine, [or] conventional is a question of fact." *Aatrix*, 882 F.3d at 1128. "Any fact . . . that is pertinent to the invalidity conclusion must be proven by clear and convincing evidence." *Berkheimer*, 881 F.3d at 1368 (citing *Microsoft Corp.*, 564 U.S. at 95).

While not all allegations regarding inventiveness are sufficient to defeat a motion to dismiss, such as those "wholly divorced from the claims or the specification, . . . plausible and specific factual allegations that aspects of the claims are inventive are sufficient." *Cellspin*, 927 F.3d at 1317. "In the § 101 context, 'the specification alone' may suffice to resolve the patent-eligibility inquiry." *WhitServe L.L.C. v. Donuts Inc.*, 809 Fed. App'x. 929, 935 (Fed. Cir. 2020) (citing *Aatrix Software, Inc. v. Green Shades Software, Inc.*, 890 F.3d 1354, 1356 (Fed. Cir. 2018)). Where the specification alone is insufficient, "[a]s long as what makes the claims inventive is recited by the claims, the specification need not expressly list all the reasons why this claimed structure is unconventional." *Cellspin*, 927 F.3d at 1317. "[C]oncrete allegations in the . . . complaint that individual elements and the claimed combination are not well-understood, routine, or conventional activity" are sufficient to deny a motion to dismiss under § 101. *Aatrix*, 882 F.3d at 1128.

IV. Discussion

a. Parties Arguments

The government argues the asserted patents are directed to a series of "abstract aspects of 'computer-implemented' manipulation and reporting of financial information." Gov't MTD at 13. Procedurally, the government argues patent eligibility may be decided on a motion to dismiss, noting "[t]he Federal Circuit has repeatedly held in favor of Rule 12(b)(6) dismissals for patent ineligibility under 35 U.S.C. § 101." *Id.* at 5. Specifically, the government argues the

asserted claims may be classified into four broad categories of abstract ideas which are each defined by a respective representative claim: claim 2 of the '355 patent; claim 3 of the '816 patent; claim 2 of the '748 patent; and claim 1 of the '337 patent. *Id.* at 13–14. The government asserts these representative claims broadly covering the technology are directed to the following abstract ideas:

Claim Group	**Government Proposed Representative Claim**	**Alleged Abstract Idea**
Claim Group 1: '355 patent claims: 2–15, 21, 25, 26, 29–42, 46, 52, 53, 55	Claim 2: '355 patent	Applying a macro to tagged numbers and reporting the results on a computer
Claim Group 2: '816 patent claims: 3–9, 12–14, 19–25 '383 patent claims: 3, 4, 6–12, 14, 15	Claim 3: '816 patent	Combining two sets of data by converting them to a common format
Claim Group 3: '748 patent claims: 2–5, 10 '842 patent claims: 29	Claim 2: '748 patent	Validating data based on rules
Claim Group 4: '384 patent claims: 66 '748 patent claims: 12–16, 20 '337 patent claims: 1	Claim 1: '337 patent	Generating reports based on data

Id.

According to the government, each of the proposed representative claims are directed to an abstract idea at *Alice* step one, and further lack an inventive concept sufficient to transform the claims into those which are patent-eligible at *Alice* step 2. *See generally id.* The government notes the '355 patent, as the earliest granted patent among the asserted patents, faced numerous rejections under § 101 during prosecution. *Id.* at 34. In order to overcome the § 101 rejections, the claims of the '355 patent were amended to tie the claims to a computer by including such limitations as: "a data processing system;" "computer-implemented;" and "computer-readable memory." Gov't MTD at 34. The government argues these claim amendments were based on the then-existing standard under *State Street Bank & Tr. Co. v. Signature Fin. Grp.*, which was deemed inadequate by the Federal Circuit in *In re Bilski* and further reinforced by the Supreme Court in both *Mayo* and *Alice*. *Id.* at 34–35. While the government acknowledges that issued

patents are granted a presumption of validity, it argues "the patent eligibility of the asserted patent claims warrant the Court's scrutiny." *Id.* at 35.

The government further argues the Court should not accept plaintiffs' "conclusory allegations" or "[a]llegations based on [plaintiffs'] expert opinion" as true. *Id.* at 29–33. The government asserts any statements by plaintiff regarding general alleged "advance in computer functionality" fail to meet the *Twombly* pleading standard. *Id.* at 31. As for the factual allegations in the complaint based at least in part on plaintiffs' expert report from the Delaware district court litigation, the government argues such statements "contradict the patent disclosures in several material aspects." *Id.* at 32.

Plaintiffs first note the timing of the government's motion to dismiss presents a possible procedural issue, arguing "[i]t is procedurally inappropriate because it requires disregarding the well-pleaded allegations of the Complaint. It also requires deciding factual disputes in the Government's favor. Both are legally impermissible." Pls.' Opp'n to MTD at 13. Plaintiffs next take issue with the government's proposed representative claims of the asserted patents, disputing each of the four claims proposed by the government. *See id.* at 25, 31, 33, 37; *see also* Tr. at 53:25–54:6, ECF No. 26 ("I think you can't do it as one representative claim that goes across all seven [patents]. I think you have to, at a minimum, look at each of the independent claims in each of the [government's] groupings, as well as for the three patents that the Government does not explicitly cite or discuss.").

Despite plaintiffs' unwillingness to agree with any representative claims, plaintiffs do engage in the two-step *Alice* framework with regards to the government's proposed representative claims and dispute the patent ineligibility of the asserted patents. *See generally* Pls.' Opp'n to MTD. At step one, plaintiffs argue the claims are not directed to an abstract idea. *See id.* at 23, 27, 31, 34. In the event the Court finds the claims directed to an abstract idea, plaintiffs argue "the claims recite an inventive concept under *Alice* step two." *Id.* at 24; *see also id.* at 30, 36. Turning to the prosecution history of the '355 patent, plaintiffs state "[i]n circumstances where an application is examined specifically with § 101 in mind, the presumption of validity is especially strong and should not be overcome summarily through judgment on the pleadings." *Id.* at 24. Plaintiffs then turn to the government's arguments directed to alleged conclusory allegations in the complaint. Plaintiffs contend "[t]hese factual allegations are fully supported by the claim language of the various asserted patents." *Id.* at 43. As for the incorporation of various statements from plaintiffs' expert report prepared in the Delaware district court litigation, plaintiffs state the "declaration is fully supported by the patent claims and the specifications of the [asserted patents]." *Id.* at 44.

Lastly, plaintiffs argue "[t]he Government's motion raises a series of claim construction issues that require resolution prior to any judgment on subject matter eligibility being rendered." *Id.* at 42. Plaintiffs propose the following terms require "additional briefing to identify the differences between [the parties'] respective positions on claim construction:" "tags;" "tags indicating characteristics of the numerical values;" "tags reflecting characteristics of the numerical values;" "computer readable semantic tags;" and "macro." Pls.' Opp'n to MTD at 42. The government responds to plaintiffs' alleged claim construction disputes by first noting "[t]he Federal Circuit has repeatedly explained that claim construction is not a prerequisite to a Rule

12(b)(6) dismissal." Gov't Reply at 4. In this case, the government argues plaintiffs "proposed no actual constructions for any of the asserted terms, and failed to explain how construction would be relevant to eligibility." *Id.* at 5.

b. Procedural Concerns

1. Ruling on Patent Eligibility Under § 101 at the Pleading Stage

The Federal Circuit has grappled with the issue of deciding patent eligibility at the Rule 12(b)(6) stage in the recent decisions of *Berkheimer* and *Aatrix*, ultimately restricting the invalidation of patents under § 101 at the pleading stage to instances when "there are no factual allegations that, taken as true, prevent resolving the eligibility question as a matter of law." *Aatrix*, 882 F.3d at 1125. Despite these decisions, determining what constitutes factual allegations sufficient to decide patent eligibility as a matter of law has been a matter of great consternation for trial courts. Another district court notes the difficulty presented by such a heightened burden at this early stage of proceedings: "because a patent is presumed valid and requires clear and convincing evidence to provide its invalidity, a Rule 12(b) motion to dismiss is a procedurally awkward place for a court to resolve a patent's § 101 eligibility." *Slyce Acquisition, Inc. v. Syte - Visual Conception Ltd*, No. 19-257, 2020 WL 278481, at *5 (W.D. Tex. January 10, 2020). Additional procedural difficulties associated with resolving patent eligibility on a rule 12(b)(6) motion to dismiss include a lack of claim construction to fully understand claim scope and lack of fact discovery to understand the prior art, amongst other things. *Id.* at *5–*6.

Numerous scholars have further voiced concerns over the use of pleading-stage motions to invalidate patents under § 101:

> Courts applying *Alice* increasingly do so on a motion to dismiss, considering whether the implementation of an abstract idea is inventive by looking only within the four corners of the patent. This approach has had the practical consequence of making it quicker and cheaper to weed out bad patents, and it has cut back significantly on the leverage exercised by so-called "patent trolls" that use the cost of litigation itself to extort a settlement. But does it make sense as a matter of doctrine? How can a court know whether the implementation of an abstract idea is inventive (i.e., well-understood, conventional or routine) without collecting evidence on what is known in the art?

Peter S. Menell, Mark A. Lemley & Robert P. Merges, Intellectual Property in the New Technological Age 298 (2017). When discussing the tradeoffs between motions to dismiss and motions for summary judgment on patent eligibility,[4] another scholar noted:

[4] Practitioner Andrew Kanel further traced the recent history of patent eligibility doctrine, beginning with *Mayo* and *Alice*, both of which address § 101 eligibility at the summary judgment stage following the development of at least some form of a factual record. Andrew Kanel, *The Federal Circuit's Treatment of Rule 12 Dismissals for Lack of Patent Eligible Subject Matter*, 53 Akron L. Rev. Issue 4 (forthcoming 2020). Kanel noted that "[w]hen the Supreme Court created the two-step test for patent eligibility in *Mayo*, it was examining a case at the motion for summary judgment stage of litigation. When the Court solidified this test in *Alice*, the case was also at the summary

> summary judgment in discovery-intensive patent cases is much more expensive than a motion to dismiss. Thus, one arguably coherent policy justification for the eligibility requirement is that, as a "coarse-grained filter" for patentability, it provides a means for quickly and cheaply wiping out patents that are so likely to be invalidated under other requirements of patentability that discovery is not warranted. The litigation cost savings that flow from early resolution of validity via the eligibility requirement may, however, come at the price of decreased accuracy. Specifically, courts may be using the eligibility requirement to invalidate meritorious inventions.

Paul R. Gugliuzza, *Quick Decisions in Patent Cases*, 106 Geo. L.J. 619, 655 (2018). This scholar further noted:

> Under an approach treating eligibility as a question of law based on underlying questions of fact, dismissal on the pleadings would remain appropriate when—as is not uncommon—the patent itself recites the prevailing practices that provide the basis for the invalidity ruling or the relevant practices are a matter of common knowledge. But explicitly acknowledging the factual components of the eligibility analysis would nudge courts to more carefully apply the *Twombly* and *Iqbal* framework. Rather than simply issuing a yes-or-no decision on the patent's validity, as sometimes seems to be the case, dismissal would be appropriate only if, viewing the relevant facts in the light most favorable to the patentee, there is no plausible case that the patent satisfies the eligibility requirement. Where there *is* a plausible cause for eligibility, the parties would be allowed to develop and present to the court, perhaps via an early summary judgment motion, evidence that would allow a more accurate comparison of the patent's claims to the prior art.

Id. at 661–62 (emphasis in original). While early resolution of patent eligibility "can dramatically reduce litigation costs," such "quick resolutions on a thin evidentiary record raise the risk that meritorious patents will be erroneously held invalid, undercutting patents as an incentive for innovation." Paul R. Gugliuzza, *Law, Fact, and Patent Validity*, 106 Iowa L. Rev. (forthcoming 2020). As noted by another judge frequently handling patent cases: "the cost for

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judgement stage." *Id.* (manuscript at 45) (available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3385570). Following these Supreme Court decisions at the summary judgment stage, however, both district courts and the Federal Circuit began "applying the *Alice* test early in litigation at the pleading stage." *Id.* Kanel notes the tension this creates:

> When the Supreme Court created and applied the *Alice* test, it had the benefit of a developed record. However, the record is not well developed at the pleading stage, and this becomes problematic when examining the claims. . . . Before claim construction, the claims usually contain some level of ambiguity that causes the parties to disagree on their scope. While ambiguity and disagreement are present, it is more difficult for the court to determine whether the claims are directed to a patent ineligible concept and whether there are additional elements that could transform the claim into an eligible application.

Id. (manuscript at 46).

both parties of delaying the resolution of § 101 eligibility until after claim construction is relatively modest and limited to the cost of preparing the claim construction briefing and preparing for the *Markman* hearing." *Slyce Acquisition*, 2020 WL 278481, at *8 n.3.

A recent survey of judges handling a large volume of patent cases raises further questions regarding early patent eligibility determinations. Based on responses from more than 100 judges handling at least 15 patent cases over a three-year period, the judges found patent eligibility under § 101 to be both the most difficult issue of patent validity, as well as the area of patent law with the least amount of doctrinal clarity (by a significant margin). *See* Matthew G. Sipe, *Patent Law 101: The view from the Bench*, 88 Geo. Wash. L. Rev. Arguendo 21, 29 (2020). This scholar thus notes the recent trend for defendants to "raise a validity challenge under § 101 via a motion to dismiss—well before discovery occurs and a factual record is developed, issues of novelty or written description are adjudicated, and matters regarding any infringement itself are broached." *Id.* at 31. Despite this lack of a factual record, trial judges are continuing "to use § 101 as a 'quick way to screen out weak patents.'" *Id.* at 32 (quoting Peter S. Menell, Mark A. Lemley & Robert P. Merges, Intellectual Property in the New Technological Age 298 (2017)). A consequence of this "early screening" is fear that § 101 will "subsume other doctrinal areas such as anticipation or obviousness as a practical matter, with judges implicitly (or explicitly) relying on arguments and analysis under § 101 that require factual predicate." *Id.* The fear of blurring these lines between subject-matter eligibility under § 101 and other aspects of patent law, such as novelty under § 102 or obviousness under § 103, seems all the more likely given the reporting judges' view that § 101 already lacks doctrinal clarity.

The Court recognizes the many concerns present when attempting to resolve patent eligibility at such an early stage of proceedings: "an issued patent enjoys the presumption of validity which requires clear and convincing evidence to prove otherwise, . . . claim construction and fact discovery can completely change the Court's § 101 analysis, and . . . the Court gains a greater understanding of the patents and the technology by delaying the resolution of eligibility." *Slyce Acquisition*, 2020 WL 278481, at *8. The Court agrees with other judges that "it is wiser and more efficient to wait to determine a patent's § 101 eligibility until after fact discovery has opened" and "after issuing its claim construction order." *Id.* at *6 (emphasis omitted). Nonetheless, current binding caselaw opens the door for the government to seek early adjudication of patent eligibility so long as no dispute as to the underlying facts exists. *See Berkheimer*, 881 F.3d at 1365; *Aatrix*, 882 F.3d at 1125.

2. Alleged Claim Construction Dispute

Plaintiffs attempt to raise at least five possible terms requiring claim construction prior to rendering a decision on patent eligibility. *See* Pls.' Opp'n to MTD at 42. These terms include: "tags;" "tags indicating characteristics of the numerical values;" "tags reflecting characteristics of the numerical values;" "computer readable semantic tags;" and "macro." *Id.* Yet plaintiffs do not provide their proposed construction for any term. Plaintiffs simply note "'computer-readable semantic tags' is a term [plaintiffs] foresee[] being at odds with the Government over because this is a key limitation for how the claims are distinguished over XML." *Id.*

The Federal Circuit has repeatedly held "[c]laim construction is not an inviolable prerequisite to a validity determination under § 101." *Genetic Techs.*, 818 F.3d at 1374; *Ultramercial, Inc. v. Hulu, L.L.C.*, 772 F.3d 709, 714–15 (Fed. Cir. 2014) (conducting both steps of an *Alice* analysis "[w]ithout purporting to construe the claims, as the district court did not"); *Bancorp Servs., L.L.C. v. Sun Life Assurance Co. of Canada (U.S.)*, 687 F.3d 1266, 1273 (Fed. Cir. 2012) ("[W]e perceive no flaw in the notion that claim construction is not an inviolable prerequisite to a validity determination under § 101."). Claim construction will, however, "ordinarily be desirable—and often necessary—to resolve claim construction disputes prior to a § 101 analysis, for the determination of patent eligibility requires a full understanding of the basic character of the claimed subject matter." *Bancorp Servs.*, 687 F.3d at 1273–74. Thus, there are certain procedural concerns with the timing of a pleading-stage motion prior to claim construction:

> A more thorough application of *Twombly* and *Iqbal* would also ensure that courts recognize the role of claim construction in the eligibility analysis. . . . Under *Twombly* and *Iqbal*, dismissal on the pleadings would be appropriate only if—again viewing any relevant facts in the light most favorable to the plaintiff—there is no plausible claim construction under which the patent would satisfy the eligibility test.

Paul R. Gugliuzza, *Quick Decisions in Patent Cases*, 106 Geo. L.J. 619, 662 (2018). Taking into account the unique procedural posture of cases facing a motion to dismiss under § 101, where claim construction issues present themselves, "the court must proceed by adopting the non-moving party's constructions, or the court must resolve the disputes to whatever extent is needed to conduct the § 101 analysis." *Aatrix*, 882 F.3d at 1125. The Court remains cognizant of the fact that "claim construction can affect—and perhaps, in most cases, will affect—a court's § 101 eligibility analysis." *Slyce Acquisition*, 2020 WL 278481, at *5.

As the government notes, however, plaintiffs "fail[] to actually identify any substantive issues that could affect eligibility." Gov't Reply at 3. Without presenting differing constructions for the identified terms, plaintiffs are unable to substantiate a genuine claim construction dispute at this early stage. Thus, "there is no claim construction dispute relevant to the eligibility issue." *Genetic Techs.*, 818 F.3d at 1374. To the extent claim terms do require any baseline level of construction by the Court for purposes of resolving the present motion, the Court will use the plain and ordinary meaning of those terms.[5] *See Phillips v. AWH Corp.*, 415 F.3d 1303, 1312–13

[5] The government notes there was limited claim construction conducted during the IPR proceedings before the USPTO. Gov't Reply at 6. Though the IPRs employed the "broadest reasonable interpretation" standard when construing the claims, a standard which has since been rejected in favor of the *Phillips* standard applied in district courts, the constructions adopted by the USPTO largely resembled the plain and ordinary meaning of each of the respective terms. For example, the following claim terms which plaintiffs attempt to raise in this case were construed as follows in the IPRs:

- "tag:" "a sequence of characters that adds data about data;"
- "macro:" "a short program that defines a set of instructions;"
- "semantic tag:" "a reference or a sequence of characters that adds data describing the meaning of the data."

Gov't Reply at 6 (citing *Merrill Commc'ns L.L.C. v. E-Numerate Sols., Inc.*, No. IPR2018-01394, 2019 WL 629489, at *3–*4 (P.T.A.B. Feb. 13, 2019) ("*IPR Petition I*"); *Merrill Commc'ns. L.L.C. v. E-Numerate Sols., Inc.*, No.

(Fed. Cir. 2005) (quoting *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996)) ("[T]he words of a claim 'are generally given their ordinary and customary meaning.'"); *Univ. of Fl. Research Found., Inc. v. General Elec. Co.*, Case No. 17-171, 2017 WL 5502940, at *3 (N.D. Fl. Nov. 16, 2017) (finding a claim construction hearing unnecessary as the court was able to "construe the terms using their plain and ordinary meaning"), *aff'd*, 916 F.3d 1363 (Fed. Cir. 2019).

c. Representative Claims

The parties disagree whether a single claim is representative of the technology of the Asserted Patents. *See* Pls.' Opp'n to MTD at 23, 25. As outlined above, the government asserts the claims are directed to four distinct categories of abstract ideas as follows: applying a macro to tagged numbers and reporting the results on a computer; combining two sets of data by converting them to a common format; validating data based on rules; and generating reports based on data. Gov't MTD at 13–14. For each identified abstract idea, the government proposes a representative claim. *Id.* Plaintiffs disagree with the government's proposed representative claims, disputing each of the four claims proposed by the government. *See* Pls.' Opp'n to MTD at 25, 31, 33, 37. While not proposing specific representative claims, plaintiffs argue that at least each patent must be characterized by its own respective representative claim. *See* Tr. at 53:25–54:6 (plaintiffs' counsel stating: "I think you can't do it as one representative claim that goes across all seven [patents]. I think you have to, at a minimum, look at each of the independent claims in each of the [government's] groupings, as well as for the three patents that the Government does not explicitly cite or discuss.").

Plaintiffs assert seven patents with a total of 289 claims. *See* Asserted Patents. Plaintiffs' complaint asserts at least 77 of those 289 total claims against the government. *See generally* Compl. Plaintiffs further intend to amend the complaint to assert additional claims as a result of the dismissal of the IPR proceedings. Tr. at 45:1–4 ("We certainly do plan on amending the complaint to assert the independent claims that were at that time in the IPR.").

Contrary to plaintiffs' arguments that a representative claim is required for each asserted patent, when determining patent eligibility under § 101, the Court may view a single claim as representative of multiple patents where there are no appreciable effects on the patent eligibility analysis. *Berkheimer*, 881 F.3d at 1365 (citing *Elec. Power Grp.*, 830 F.3d at 1352) ("Courts may treat a claim as representative in certain situations, such as if the patentee does not present any meaningful argument for the distinctive significance of any claim limitations not found in the representative claim . . . ."); *Mortgage Grader*, 811 F.3d at 1324 n.6 ("Although there was neither an agreement by the parties nor a finding by the district court that any of the asserted claims is representative for purposes of the § 101 analysis, there is also no contention that the

IPR2018-01389, 2019 WL 624946, at *2–*3 (P.T.A.B. Feb. 13, 2019) ("*IPR Petition II*")). While plaintiffs did not dispute these constructions during the IPR proceedings, they did attempt to reserve their right to challenge such positions in a district court proceeding. *See, e.g.*, *IPR Petition II*, 2019 WL 624946, at *2 ("Patent Owner does not challenge Petitioner's proposed constructions, nor proffers any claim constructions for other terms"); *Merrill Commc'ns L.L.C. v. E-Numerate Sols., Inc.*, No. IPR2018-01394, 2019 WL 1996753 (P.T.A.B. May 6, 2019) ("For purposes of this proceeding only, the Patent Owner does not dispute the proposed and adopted constructions. The Patent Owner reserves the right to take a different position in any District Court proceeding.").

claims differ in any manner that is material to the patent-eligibility inquiry. We have no need to address the four asserted claims individually."); *Alice*, 573 U.S. at 212 n.1, 213 n.2 (treating a single method claim as representative of all asserted method claims from four patents); *Two-Way Media*, 874 F.3d 1329 at 1333 ("Claim 1 of the '187 patent is representative of all claims of the '187 patent and '005 patent").

The Court will thus begin with the government's proposed representative claims as a starting point to determine whether those claims are sufficient to serve as representative claims for purposes of the patent eligibility analysis. The Court begins this analysis with the government's first proposed representative claim, claim 2 of the '355 patent,[6] which the government alleges is directed to the abstract idea of applying a macro to tagged numbers and reporting the results on a computer. Gov't MTD at 13. The government proposes claim 2 of the '355 patent is representative of the following asserted claims: claims 2–15, 21, 25, 26, 29–42, 46, 52, 53, and 55 of the '355 patent. *Id.* Though unwilling to concede claim 2 as representative of all the asserted claims identified by the government, plaintiffs' counsel did note during oral argument that the government's identified groupings are "not off-the-wall groupings." Tr. at 51:9–10.

Claims 1 and 2 of the '355 patent are set forth below:

Claim 1 of the '355 patent:

> 1. A computer-implemented method of processing tagged numerical data, the method comprising:
>
> > receiving a series of numerical values having tags indicating characteristics of the numerical values;
> >
> > generating at least one first title corresponding to the series of numerical values;
> >
> > receiving a macro defined to perform an operation on the series of numerical values;
> >
> > performing an operation defined by the macro on the series of numerical values to transform the series of numerical values into a new representation of the series of numerical values based on the tags;

[6] The complaint in this case was filed 11 June 2019. *See* Compl. As the IPR proceedings involving the asserted patents were still pending at this time and not dismissed until 25 July 2019, plaintiffs did not assert the independent claims in this action that were previously pending in the IPRs. Tr. 45:1-5 (plaintiffs' counsel explaining that they "plan on amending the complaint to assert the independent claims that were at the time in the IPR. We didn't want to give the Government any basis to moot the stay of this case."). Accordingly, for the purposes of evaluating the patent eligibility of the asserted patents, the Court begins by analyzing claim 2 of the '355 patent, an asserted dependent claim incorporating all of the limitations of independent claim 1.

> generating at least one second title corresponding to results of the operations;
>
> and displaying the results of the operation and the at least one second title, wherein:
>
> > the macro makes a copy of the series of numerical values before the operation is performed,
> >
> > the macro comprises at least one arithmetic statement, the at least one arithmetic statement comprises a variable, the variable is referenced in a local or remote document other than a document that contains the macro, and the step of receiving the macro comprises receiving the macro including interested code, meta-data, and error handling instructions.

'355 Patent at col. 56:34–54.

Claim 2 of the '355 patent:

> 2. The computer-implemented method of claim 1, wherein the macro comprises at least one control flow keyword.

Id. at col. 56:57–58.

The Court agrees with the government that claim 2 of the '355 patent is generally directed to the concept of applying a macro to tagged numbers and reporting the results on a computer. The remaining asserted dependent claims of the '355 patent, while adding various elements to this general concept, do not present any distinctly patentable concepts for purposes of the Court's patent eligibility analysis under § 101.[7] Though plaintiffs were unable to express their final agreement with any representative claims, plaintiffs' counsel did state the following during oral argument when pressed by the Court as to the government's proposed representative claims: "each patent . . . should be treated individually. Each one is a separate patent with separate claim language that should be treated individually. . . . You should certainly [be] looking at the claims the Government identified in each of the four patents." Tr. at 52:22–53:2.

d. *Alice*/*Mayo* Step One

The Court begins the patent-ineligibility inquiry by analyzing claim 2 of the '355 patent under step one of the *Alice*/*Mayo* test: "whether the claims at issue are directed to one of [the] patent-ineligible concepts." *Alice*, 573 U.S. at 217. At step one, the Court analyzes the claims

[7] For example, the various asserted dependent claims of the '355 patent include: further limitations to the content of the macro or intrinsic function; further limitations to the characteristics of the tags; the addition of charts, reports, and graphs to the performing step; and an additional step responsible for creating the macro. *See* '355 Patent at col. 56:59–60:61.

with a focus on the "claimed advance over the prior art to determine if the claim's character as a whole is directed to excluded subject matter." *Affinity Labs*, 838 F.3d at 1257 (internal quotation marks omitted). Claim 2 of the '355 patent relates to "[a] computer-implemented method of processing tagged numerical data." '355 Patent at col. 56:34. The method involves a series of steps, including: a receiving step; a generating step; a secondary receiving step involving a macro; an operation step utilizing the macro; a generation step; and a display step. *Id.* at col. 56:34–54. The display step further utilizes an additional macro with an arithmetic statement for copying numerical values. *Id.*

The Court first considers the government's argument relating to the prosecution history of the asserted patents. Although the Court fully recognizes the presumption of validity awarded to issued patents and the need to overcome such a presumption by clear and convincing evidence, *Microsoft Corp.*, 564 U.S. at 96–97, the government raises a more nuanced point than merely challenging this presumption of validity. The government rightly identifies that during patent prosecution, the claims of the '355 patent were at least partially evaluated under an outdated standard of patent eligibility. Gov't MTD at 34. Thus, when reviewing the claims of the '355 patent for patent eligibility, the Court is mindful of the change in § 101 patent-eligibility standards following prosecution of the '355 patent.

Comparing the claims at issue to claims found eligible or ineligible in prior cases is a useful tool encouraged by the Federal Circuit. *See Enfish*, 822 F.3d at 1334 ("[B]oth [the Federal Circuit] and the Supreme Court have found it sufficient to compare claims at issue to those claims already found to be directed to an abstract idea in previous cases."). In a recent Federal Circuit decision, *Uniloc USA, Inc. v. LG Elecs. USA, Inc.*, Judge Moore dissected the claims previously analyzed in a number of Federal Circuit cases related to patent eligibility under § 101. 957 F.3d 1303. In doing so, she noted that "[i]n cases involving software innovations, this inquiry often turns on whether the claims focus on specific asserted improvements in computer capabilities or instead on a process or system that qualifies an abstract idea for which computers are invoked merely as a tool." *Id.* at 1306.

According to *Uniloc*, claims directed to specific improvements in computer capabilities or functionality sufficient to pass *Alice* step one include those in *DDR Holdings, LLC v. Hotels.com, L.P.* ("*DDR Holdings*"), *Enfish, LLC v. Microsoft Corp.* ("*Enfish*"), and *Visual Memory LLC v. NVIDIA Corp.* ("*Visual Memory*"). *Id.* at 1307. The claims in *DDR Holdings* addressed "overcome[ing] a problem specifically arising in the realm of computer networks," thus "chang[ing] the normal operation of the computer network itself and was 'necessarily rooted in computer technology.'" *Id.* (quoting *DDR Holdings, L.L.C. v. Hotels.com, L.P.*, 773 F.3d 1245, 1257–59 (Fed. Cir. 2014)). In *Enfish*, the claims were "directed to a self-referential database that improved the way computers operated and handled data, allowing the more efficient launching and adaptation of databases." *Id.* (citing *Enfish*, 822 F.3d at 1336–39). In *Visual Memory*, the claims "focus[ed] on a 'specific asserted improvement in computer capabilities,' namely the accommodation of different types of processors without compromising performance." *Id.* (quoting *Visual Memory L.L.C. v. NVIDIA Corp.*, 867 F.3d 1253, 1259–60 (Fed. Cir. 2017)).

Also discussed in *Uniloc* are claims directed to non-abstract improvements in computer capabilities or functionality, including those in *Ancora Technologies, Inc. v. HTC America, Inc.* ("*Ancora*"), *Data Engine Technologies L.L.C. v. Google L.L.C.* ("*Data Engine*"), and *Core Wireless Licensing S.A.R.L. v. LG Elecs., Inc.* ("*Core Wireless*"). *Uniloc*, 957 F.3d at 1307. The claims in *Ancora* were "directed to a non-abstract improvement to computer security," addressing "the 'vulnerability of license-authorization software to hacking' and were thus 'directed to a solution to a computer-functionality problem.'" *Id.* at 1307 (quoting *Ancora Techs., Inc. v. HTC America, Inc.*, 908 F.3d 1343, 1347–49 (Fed. Cir. 2018)). In *Data Engine*, the patent-eligible claims "recit[ed] 'a specific method for navigating through three-dimensional electronic spreadsheets' because the claimed invention 'improv[ed] computers' functionality as a tool able to instantly access all parts of complex three-dimensional electronic spreadsheets.'" *Id.* (quoting *Data Engine Techs. L.L.C. v. Google L.L.C.*, 906 F.3d 999, 1007–08 (Fed. Cir. 2018)). Lastly, in *Core Wireless*, the claims were "directed to an improved user interface that enabled users to more quickly access stored data and programs in small-screen electronics," thus "improv[ing] the efficiency of using the electronic device by bringing together a limited list of common functions and commonly accessed stored data, which can be accessed directly from the main menu.'" *Id.* (quoting *Core Wireless Licensing S.A.R.L. v. LG Elecs., Inc.*, 880 F.3d 1356, 1359–63 (Fed. Cir. 2018)). In view of these previously analyzed claims, the claims at issue in *Uniloc* were found to be "directed to a patent-eligible improvement to computer functionality, namely the reduction of latency experienced by parked secondary stations in communications systems." *Id.* at 1307.

Claim 2 of the '355 patent does not address a specific or non-abstract improvement in the functioning of a computer itself in the same way as the claims discussed in *Uniloc*. Rather, claim 2 uses a series of functional steps previously implemented on computers in order to achieve a desired result: the integration of metadata with tagged numerical data resulting in the efficient processing of said numerical data. Claim 2 is a method for processing data more efficiently; it does not improve the functioning of the computer itself in a specific or non-abstract way. Despite plaintiffs' arguments that "[t]he claimed inventions are entirely and necessarily computer based," the claims attempt to solve an abstract problem with a solution merely invoking the computer as a more efficient tool. Pls.' Opp'n to MTD at 8. For purposes of step one, claim 2 of the '355 patent thus more closely resembles yet another group of claims discussed in *Uniloc*: those "not directed to a patent-eligible technological improvement," as illustrated by the claims in *Digitech Image Techs., L.L.C. v. Elecs. for Imaging, Inc.* ("*Digitech*") and *Two-Way Media*. *Uniloc*, 957 F.3d at 1308.

The claims in *Digitech* "recited 'a process of taking two data sets and combining them into a single data set,' called a device profile." *Id.* at 1308 (quoting *Digitech Image Techs., L.L.C. v. Elecs. for Imaging, Inc.*, 758 F.3d 1344, 1351 (Fed. Cir. 2014)). Generation of "the claimed device profile did not alone reduce image distortion or otherwise improve image processing." *Id.* (citing *Digitech*, 758 F.3d at 1347–48). "The claims were not directed to a patent-eligible technological improvement but rather recited 'the ineligible abstract idea of gathering and combining data that does not require input from a physical device.'" *Id.* (quoting *Digitech*, 758 F.3d at 1351). In *Two-Way Media*, the claims "similarly failed to concretely capture any improvement in computer functionality." *Id.* at 1308. The claims in *Two-Way Media* "recited a method of transmitting packets of information over a communications

network[,] . . . but the claimed method was not directed to" the alleged improvements over the prior art. *Id.* (citing *Two-Way Media*, 874 F.3d at 1336–37). Rather, the claims in *Two-Way Media* were patent ineligible "because they merely recited a series of abstract steps . . . using 'result-based functional language' without the means for achieving any purported technological improvement." *Uniloc*, 957 F.3d at 1308 (quoting *Two-Way Media*, 874 F.3d at 1337).

Here, plaintiffs argue claim 2 of the '355 patent made "specific improvement[s] to the way prior HTML and XML technology operated." Pls.' Opp'n to MTD at 23. The "specific improvements" include "requir[ing] the use of tagged numerical data, wherein the tags indicate characteristics of the data," and "requir[ing] a specific macro operating on a variable located in a different document than the document containing the macro." *Id.* Claim 2 itself, however, merely recites a series of abstract steps using functional language. This is much the same way as the claims in *Two-Way Media* failed to provide "the means for achieving any purported technological improvement." *Uniloc*, 957 F.3d at 1308. Here, claim 2 fails to provide *how* these specific technological improvements are achieved. *Id.* (quoting *Two-Way Media*, 874 F.3d at 1337). The method of claim 2 requires "receiving a series of numerical values having tags indicating characteristics of the numerical values." '355 Patent at col. 56:36–37. As plaintiffs further indicated, however, the asserted patents did not invent the use of tags. *See, e.g.*, Compl. ¶ 22 ("While the patents-in-suit do not claim the invention of semantic tags . . . ."). Claim 2 is not directed to how the tagging of the numerical values is done; claim 2 only requires that the tagged numerical values are subjected to a series of functional steps.

Similarly, claim 2 does not address *how* the macro references the variable located in a second document. All claim 2 recites is a series of functional steps which the macro applies to the tagged numerical value. '355 Patent at col. 56:40–56 ("receiving a macro defined to perform an operation on the series of numerical values;" "performing an operation defined by the macro on the series of numerical values;" "the macro makes a copy of the series of numerical values before the operation is performed;" "the macro comprises at least one arithmetic statement . . ."). The asserted patents did not invent the use of macros. *See, e.g.*, '355 Patent at col. 2:55–62 ("Macros are essentially short programs which perform well-defined, generally limited, tasks. Millions of spreadsheet users have used spreadsheet macros to automate mechanical tasks involved in manipulating the numbers in their spreadsheets."). Rather, claim 2 only requires the macro to reference a variable located in a second document. '355 Patent at col. 56:51–54. Claim 2 does not provide the means for how the macro itself "achiev[es] any purported technological improvement." *Uniloc*, 957 F.3d at 1308 (quoting *Two-Way Media*, 874 F.3d at 1337). The claim language itself does not describe the actual operation of the macro. Utilizing two documents to apply a macro and report the results on a computer in nothing more than functional terms is no more a technological improvement than "a process of taking two data sets and combining them into a single data set." *Uniloc*, 957 F.3d at 1308 (quoting *Digitech*, 758 F.3d at 1351). At first blush, claim 2 appears to be directed to the abstract idea of manipulating and reporting financial information on a computer.

With this broad understanding of precedent regarding related claims analyzed at the Rule 12 stage under § 101, the Court turns to the claims analyzed in another case with perhaps the greatest similarity in both structure and subject matter. In *Intellectual Ventures I L.L.C. v. Erie Indem. Co.*, the Federal Circuit addressed a similar set of claims directed to "methods and

apparatuses that use an index to locate desired information in a computer database." 850 F.3d 1315, 1325 (Fed. Cir. 2017) (hereafter "*IV I v. Erie*"). Using XML markup language, the technology in *IV I v. Erie* "propose[d] to search the database using an index." *Id.* at 1326. "When the system receives a search request, a set of tags that corresponds to the request is somehow identified by the system. And the system uses that set of tags to search for records that have an index component identifying the same set of tags." *Id.* Claim 19 of U.S. Patent No. 6,510,434 ("the '434 Patent") in *IV I v. Erie*, reproduced below, was one of the independent claims directed to an "exemplary method[] of creating and searching a database:"

> 19. A method for searching a database of information, comprising the steps of:
>
> receiving a request for information from a client, the request having a first term;
>
> identifying a first XML tag that is associated with the first term;
>
> determining whether a first metafile corresponds to the first XML tag;
>
> if the first metafile corresponds to the first XML tag, then transmitting the first XML tag, the first metafile and query code to the client;
>
> once the client conducts a query by executing the query code using the first XML tag and the first metafile, then receiving query results including a first set of XML tags from the client;
>
> combining the first set of XML tags into a key;
>
> using the key to search the database to locate records including the first set of XML tags;
>
> and delivering the records.

Id. at 1326–27.

In analyzing the tagging method of claim 19 in *IV I v Erie*, the Federal Circuit analogized the claim language to "organizing and accessing records through the creation of an index-searchable database" to the "abstract concept[] [of] merely collect[ing], classify[ing], or otherwise filter[ing] data." *Id.* at 1327. This activity was identified as "longstanding conduct that existed well before the advent of computers and the Internet." *Id.* The patentee in *IV I v. Erie* argued the claim was "drawn to a specific search architecture that improves how computer databases function," focusing on how the claim is "directed expressly to building an index using XML tags," thus attempting to correlate claim 19 with the claims at issue in *Enfish*. *IV I v. Erie*, 850 F.3d at 1327. The Federal Circuit was unconvinced by the patentee's attempt to rely "on this known markup language to tether the claimed invention to a specific type of database architecture." *Id.* "[M]erely using XML tags—as opposed to other kinds of tags—to build an index is still abstract. The claims are not focused on *how* usage of the XML tags alters the

database in a way that leads to an improvement in the technology of computer databases." *Id.* at 1328. The Federal Circuit further differentiated claim 19 from the claims in *Enfish* as "the claims simply call for XML-specific tags in the index without any further detail. The patent concedes that the XML tags were previously known in the art." *Id.*

Here, plaintiffs attempt to focus on the requirement for "the use of tagged numerical data, wherein the tags indicate characteristics of the data." Pls.' Opp'n to MTD at 23. Plaintiffs further recite the need for "a specific macro operating on a variable located in a different document than the document containing the macro." *Id.* Together, plaintiffs assert "[t]hese features constituted a specific improvement to the way prior HTML and XML technology operated." *Id.* Yet plaintiffs, much the same as in *IV I v. Erie*, concede they did not invent the use of numerical tags themselves. Compl. ¶ 22. Nor does the patent claim using a macro to define the operation of tags. '355 Patent at col. 2:55–62. Plaintiffs' argument that the claims are "necessarily rooted in computer technology in order to overcome a problem specifically arising in the realm of computer networks," just as in *IV I v. Erie*, is unconvincing. *DDR Holdings*, 773 F.3d at 1257.

Regarding further comparable cases, at oral argument the Court asked counsel for the government to identify "one case that covers the closest technology and claim language" to the asserted claims. Tr. at 149:5–6. Counsel for the government identified the Federal Circuit's 2019 opinion in *Univ. of Fl. Research Found. Inc. v. Gen. Elec. Co.*, 916 F.3d 1363 (Fed. Cir. 2019) (hereinafter "*University of Florida*") as the most applicable case. Tr. at 149:10–12. In *University of Florida*, the Federal Circuit agreed with the district court that the claims were "directed to the abstract idea of 'collecting, analyzing, manipulating, and displaying data'" at step one. *University of Florida*, 916 F.3d at 1367–68. The representative claim analyzed in *University of Florida*, claim 1, is reproduced below:

1. A method of integrating physiologic treatment data comprising the steps of:

   receiving physiologic treatment data from at least two bedside machines;

   converting said physiologic treatment data from a machine specific format into a machine independent format within a computing device remotely located from said bedside machines;

   performing at least one programmatic action involving said machine-independent data; and

   presenting results from said programmatic actions upon a bedside graphical user interface.

Id. at 1366 (quoting U.S. Patent No. 7,062,251 to Birkett et al. ("the '251 Patent")).

As the Federal Circuit described in detail, the technology in *University of Florida* was claimed as "quintessential 'do it on a computer'" claims: "it acknowledges that data from bedside machines was previously collected, analyzed, manipulated, and displayed manually, and

it simply proposes doing so with a computer." *Id.* at 1367. The government here falls short of convincing the Court that claim 2 of the '355 patent may be similarly characterized as the mere automation of a "pen and paper methodology[y]." *Id.* Plaintiffs rebut these accusations in their response: "Prior art before the filing of the patents-in-suit would not and could not encode the metadata necessary for a human or automated process to unambiguously identify the attributes and characteristics of similarly named numerical data elements so that these differing data elements could be combined to yield an identified result." Pls.' Opp'n to MTD at 8. Plaintiffs thus attempt to differentiate the claims of the '355 patent by arguing the alleged "routine business practice" to which they are drawn was one which did not exist before the introduction of computers, as "the claimed inventions are entirely and necessarily computer based." *Id.*

While claim 2 presents more than the mere automation of a prior existing routine business practice, it does fall short of "any 'specific improvement to the way computers operate.'" *University of Florida*, 916 F.3d at 1367 (quoting *Enfish*, 822 F.3d at 1336). Similar to claim 1 in *University of Florida*, claim 2 of the '355 patent uses purely functional claim terms. In *University of Florida*, the patentee's arguments failed to establish any "specific improvement to the way computers operate." *Id.* Claim 1 in *University of Florida* described the drivers as facilitating, converting, translating, and interpreting functions. *Id.* Claim 2 of the '355 patent requires a series of receiving functions, a series of generating functions, an operation function, and a display function. '355 Patent at col. 56:34. All functions are performed by a general purpose computer. *See, e.g.*, '355 Patent at col. 56:34 ("A computer-implemented method . . ."); *id.* at col. 13:49–50 ("[d]ata processing system comprises a computer and a server computer interconnected via a network") (internal reference numerals omitted); *id.* at col. 13:52–55 ("[c]omputer includes a central processing unit (CPU), a main memory, a secondary storage device, a display and an input device") (internal reference numerals omitted); *id.* at 9:1–2 ("Generally, data viewer may be software that resides in the memory of a computer . . .") (internal reference numerals omitted). Similar to *University of Florida* where the patentee failed to "explain[] *how* the drivers do the conversion that [the patentee] points to," plaintiffs here fail to explain *how* the numerical tags or macros operate to improve the functioning of the computer itself. *University of Florida*, 916 F.3d at 1368. Like the claims at issue in *University of Florida*, claim 2 here "fails to provide any technical details for the tangible components, . . . instead predominately describe[ing] the system and methods in purely functional terms." *Id.* at 1368 (quoting *In re TLI Commc'ns L.L.C. Patent Litig.*, 823 F.3d 607, 612 (Fed. Cir. 2016)).

The Court has analyzed recent Federal Circuit cases addressing patent eligibility under § 101 at the Rule 12 stage, in addition to numerous Federal Circuit opinions addressing the patent eligibility of claims similar to that of claim 2 of the '355 patent. Based on this analysis, the Court finds that at step one, claim 2 of the '355 patent is directed to the abstract idea of applying a macro to tagged numbers and reporting the results on a computer.

e. *Alice*/*Mayo* Step Two

The Court next searches for an "inventive concept" by analyzing "the elements of each claim both individually and 'as an ordered combination' to determine whether the additional elements 'transform the nature of the claim' into a patent-eligible application." *Alice*, 573 U.S. at 217 (quoting *Mayo*, 566 U.S. at 79, 78). Plaintiffs allege various features of claim 2, including

the characteristics of the tags and the operating function of the macro, are inventive features that "were not well-known, routine, and conventional" at the time of invention. Pls.' Opp'n to MTD at 24. "Whether the claim elements or the claimed combination are well-understood, routine, conventional is a question of fact." *Aatrix*, 882 F.3d at 1128. The Court must therefore determine whether plaintiffs plausibly allege sufficient factual allegations to survive a Rule 12 challenge under § 101, aided again by a comparison to previous Federal Circuit cases analyzing both similar claims and factual allegations.

At the Rule 12 stage, the Court "must accept as true all the factual allegations in the complaint." *Sommers Oil Co. v. United States*, 241 F.3d 1375, 1378 (Fed. Cir. 2001). Not all allegations regarding inventiveness, however, are sufficient to defeat a motion to dismiss, including factual allegations "wholly divorced from the claims or the specification." *Cellspin*, 927 F.3d at 1317. The factual allegations must be "plausible and specific factual allegations that aspects of the claims are inventive." *Id.* The government argues plaintiffs' complaint makes "conclusory allegations declaring the asserted patents as the antithesis of *Mayo*." Gov't MTD at 31. The alleged conclusory allegations include a recitation of claim functions, followed by statements such as: "allows a user to perform operations on numbers that were simply not possible using prior art markup languages;" and "were not described in prior art markup languages." Compl. ¶¶ 37, 38, 51, 52, 65, 66, 79, 80, 93, 94, 107, 108, 114, and 115. As these statements in plaintiffs' complaint are not specifically tied to the claim language in any way, they may be dismissed as "mere conclusory statements."[8] *Iqbal*, 556 U.S. at 678.

Plaintiffs' complaint does, however, present further factual allegations which are more than mere conclusory statements. For example, plaintiffs allege the asserted patents "solve[] . . . HTML- and XML-related problems with unique tools that allowed users for the first time to easily view, compare, and analyze numerical data on the Internet." Compl. ¶ 16. According to plaintiffs, RDML uses tags, which operate by encoding information about the respective numbers. *Id.* ¶ 16.c.iii. "The encoded information is connected with the numbers themselves and the tags move with the numbers when the numbers are ported." *Id.* Plaintiffs thus allege this created a "dramatically different approach than previously used, which was to keep document metadata and data itself separate from each other," by "[p]airing the metadata directly with the numerical data in machine-readable form so the numerical data could be easily identified and used in different program applications." *Id.* ¶ 16.a. Plaintiffs' technology therefore "overcame the limitations of traditional spreadsheets which operate only at the cell (single number) level"

[8] Recent Federal Circuit opinions affirming Rule 12 dismissals for patent ineligible subject matter reaffirm that a parties' conclusory allegations regarding patent eligibility need not be accepted as true. *See Dropbox, Inc. v. Synchronoss Techs., Inc.*, Nos. 19-1765, 19-1767, 19-1823, 2020 WL 3400682, at *8 (Fed. Cir. June 19, 2020) (quoting *Cellspin Soft*, 927 F.3d at 1317) ("[The patentee's] allegations restate the claim elements and append a conclusory statement that 'nothing in the specification describes these concepts as well-understood, routine, or conventional.' . . . These pleadings provide no more than a series of legal conclusion about the § 101 analysis. . . . '[A]ny allegation about inventiveness, wholly divorced form the claims or the specification' does not defeat a motion to dismiss; only 'plausible and specific factual allegations that *aspects of the claims* are inventive are sufficient.'"); *Cisco Sys. v. Uniloc 2017, L.L.C.*, No. 19-2048, 2020 WL 2465483, at *3 (Fed Cir. May 13, 2020) (finding the patentee's "purported factual allegations were conclusory statements regarding eligibility. . . . These are not factual allegations; they are sweeping conclusory statements and the district court properly concluded that they did not preclude dismissal."); *Ubisoft Ent. v. Yousician Oy*, No. 19-2399, 2020 WL 3096369, at *3 (Fed Cir. June 11, 2020) ("The district court was not required to accept [the patentee's] unreasoned conclusions and arguments in the ab-sence of specific plausible allegations of supporting facts.").

by "[e]nhanc[ing] analytical calculation power by creating data objects at the line item and document levels." *Id.* ¶ 16.c.

Plaintiffs further allege:

> [p]rior art, as embodied in HTML and XML at the time of the filing of the [asserted patents], did not provide any metadata . . . beyond simple display formatting. Without these attributes and characteristics, it was not possible for a human or a computer to select, process, combine or output data elements without resorting to human intervention to find, associate and take into account how the appropriate attributes and characteristics would affect the selection, processing, combination and outputting activities.

Id. ¶ 17.a. The asserted patents "provide a mechanism to capture the metadata required to identify the attributes and characteristics of each numerical data element, and thereby allow the automated selection of the appropriate analytic routines based on the metadata associated with those analytical routines." Compl. ¶ 17.b. The "semantic tags" further play an important role in processing necessary metadata. "[T]he term 'semantic tags' indicates that, in addition to the association of a descriptive 'name' with a data item[,] . . . additional attributes and characteristics information is recorded. These additional attributes and characteristics provide semantic meaning, allowing the RDML Data Viewer to select, analyze, process and output results based on information stored in universally accessible 'Second Documents' stored on the Internet." *Id.* ¶ 22.

Finally, plaintiffs' complaint addresses a further alleged deficiency in the prior art: the inability to "encode the metadata necessary for a human or automated process to unambiguously identify the attributes and characteristics of similarly named numerical data elements so that these differing data elements could be combined to yield an identified result." *Id.* ¶ 21. "Without defined standards for capturing and accessing both numerical data attributes and characteristics, the selection of appropriate data formats and analytic routines could not be performed automatically by either human or machine." *Id.* ¶ 17.b. "Without the semantic relationship capabilities invented by the [asserted patents], a human could not unambiguously locate these recorded steps by hand. Even if a human was provided with a document containing the processing steps, prior art did not provide for the encoding of the necessary metadata needed to ensure that, based on the attributes and characteristics of the data elements to be combined, they would qualify for the application of the selected process." *Id.* ¶ 21.

Among the specific claim limitations in claim 2 of the '355 patent are: "tags indicating characteristics of the numerical values;" "receiving a macro;" "performing an operation defined by the macro;" the macro is a particular type of macro which references a variable "in a local or remote document other than a document that contains the macro;" and the macro includes metadata. '355 Patent at col. 56:34–58. These factual allegations pled in the complaint, when construed in the light most favorable to the non-moving party at the Rule 12(b) stage, tie the tags, macros, metadata, and use of multiple documents specifically recited in the claims to inventive features alleged to be more than what was considered well-known, routine, and conventional at the time of invention. Having determined these factual allegations to be

plausible and specifically tied to the claims, the Court now compares these factual allegations to those evaluated by the Federal Circuit in previous cases involving a Rule 12 motion under § 101 to evaluate whether they support a finding that the claims recite more than what was well-understood, routine, and conventional activity known to the industry at the time of invention.[9]

Returning first to *IV I v. Erie*, where the "claims relat[ed] to methods and apparatuses that use an index to locate desired information in a computer database," the specification of the patent at issue noted "prior art database searching methods were inefficient and often returned many false positives." *IV I v. Erie*, 850 F.3d at 1325. At step two, the Federal Circuit "look[ed] to see whether there are any 'additional features' in the claims that constitute an 'inventive concept,'" where any such "'additional features' must be more than 'well-understood, routine, conventional activity.'" *Id.* at 1328 (first quoting *Alice*, 573 U.S. at 221; then quoting *Mayo*, 566 U.S. at 79). The patentee argued "the claimed contribution lies in the utilization of an index constructed of specific XML tags and metadata to facilitate searches." *Id.* at 1328. As the court observed, however, "[t]he patent admits that an index is simply 'a guide that is used to locate information stored in a database.'" *Id.* (quoting '434 Patent at col. 2:39–41). This argument was found insufficient to "transform the patent-ineligible abstract idea . . . into a patent-eligible invention" based only on "the recitation of an index employing XML tags to navigate a computerized database." *Id.*

The patentee next attempted to focus on the patent's use of tags and metafiles associated with the tags "to build the claimed index." *Id.* at 1329. The court found these allegations similarly insufficient to "transform[] the claims into a patent eligible invention." *IV I v. Erie*, 850 F.3d at 1328. "While limiting the index to XML tags certainly narrows the scope of the claims, in this instance, it is simply akin to limiting an abstract idea to one field of use or adding token post solution components that do not convert the otherwise ineligible concept into an inventive concept." *Id.* at 1328–29. Nor did "the metafiles associated with these tags" do enough to "transform the claim into something beyond a conventional computer practice for facilitating searches." *Id.* at 1329. Referring back to the specification of the '434 patent at issue in *IV I v. Erie*, the court found the metafiles to be "mere indicators that provide additional information about the tags hierarchical structure in the index." *Id.* "The use of metafiles to build the claimed index is yet another natural consequence of carrying out the abstract idea in a computing environment and is, therefore, also insufficient to transform the patent-ineligible abstract idea into a patent-eligible invention." *Id.*

[9] Many of the factual allegations presented in plaintiffs' complaint were derived from the expert report submitted in the Delaware district court litigation. Tr. at 143:18–21 (responding to the Court's question regarding an expert report, plaintiffs' counsel indicated "that was submitted in the District of Delaware case, that's part of the docket there, but it was—many of those allegations were put into the complaint in this case"). The Court is not aware of, nor does counsel for the government argue for, any heightened burden or scrutiny for reviewing these factual allegations in the complaint, despite their unique disposition. Tr. at 147:17–148:4 (responding to the Court's question as to how factual allegations in the complaint derived from an expert report are treated, counsel for the government responded: "It doesn't get any sort of special status. . . . We think . . . whether it's a Plaintiff's allegations in the complaint or an expert report that's submitted, again, the issue is whether it's plausible, whether it's factual, whether it's merely legal argument, whether it's contradicted by the intrinsic record. We think . . . it doesn't matter whether it's a Plaintiff's assertions in the complaint or an expert report that's submitted at this particular time, it's treated the same way.").

Referring specifically to the claims at issue in *IV I v. Erie*, the court noted "the claims do not sufficiently recite how the inclusion of XML tags or metadata leads to an improvement in computer database technology through some 'non-conventional and non-generic arrangement of known, conventional pieces.'" *Id.* at 1329 (quoting *BASCOM Global Internet Servs., Inc. v. AT&T Mobility L.L.C.*, 827 F.3d 1341, 1349–52 (Fed. Cir. 2016)). An evaluation of the remaining claims provided similar results: "the remaining limitations recite routine computer functions" that were found to be "no more than the 'performance of well-understood, routine, [and] conventional activities previously known to the industry.'" *IV I v. Erie*, 850 F.3d at 1329 (quoting *Content Extraction and Transmission L.L.C. v. Wells Fargo Bank, Nat. Ass'n*, 776 F.3d 1343, 1347–48 (Fed. Cir. 2014)). Thus, after evaluating each of the patentee's arguments, the Federal Circuit "agree[d] with the district court that [the claims] lack an 'inventive concept' that transforms the abstract idea of creating an index and using that index to search for and retrieve data into a patent-eligible application of that abstract idea." *Id.* at 1328.

Turning back to the '355 patent at issue in this case, claim 2 requires more than simply the tags present in claim 19 of the '434 patent at issue in *IV I v. Erie*. The tags required in claim 2 of the '355 patent are "tags indicating characteristics of the numerical values," accompanied by a "first title corresponding to the series of numerical values." '355 Patent at col. 56:36–39. When the macro is received to "perform an operation on the series of numerical values," the macro comprises metadata and an arithmetic statement with a variable "referenced in a local or remote document other than a document that contains the macro." *Id.* at col. 56:40–55. As the complaint emphasizes, this resulted in a "dramatically different approach than previously used . . . [by] pairing the metadata directly with the numerical data in machine-readable form so the numerical data could be easily identified and used in different program applications." Compl. ¶ 16.a. The complaint better explains the relationship between the tags and the metadata as utilizing "semantic tags" to "allow[] the RDML Data Viewer to select, analyze, process and output results based on information stored in universally accessible 'Second Documents' stored on the Internet." *Id.* ¶ 22.

Whereas in *IV I v. Erie* the "use of metafiles to build the claimed index [was] yet another natural consequence of carrying out the abstract idea in a computing environment," plaintiffs in the present case make a plausible showing that the use of semantic tags according to claim 2 of the '355 patent was not merely the performance of routine or conventional activities known in the art. *IV I v. Erie*, 850 F.3d at 1329. The Court already addressed the government's attempts to characterize plaintiffs' technology as "replac[ing] data manipulations done 'by hand'" with respect to step one in an attempt to refute the claims being directed to an improvement in computer technology itself. The government's arguments are equally unavailing here when applied at step two, as the government's selectively cited portions of the specification from the '355 patent fail to adequately address the semantic nature of the tags and their cooperation with the metadata and a second document. *See, e.g.*, Gov't MTD at 7 (quoting '355 Patent at col. 12:25–33) ("Every time the spreadsheet is used, the creator looks the numbers up in the newspaper and types the results into the appropriate cells, and any necessary transformations are made by hand. RDML removes the need for custom programming and manual input . . . ."); *id.* at 18 (quoting '355 Patent at col. 12:25–33) ("In a basic use case, data such as interest rates can be 'look[ed] . . . up in the newspaper . . . and any necessary transformations [can be] made by

hand' before entering the data into the spreadsheet."); *id.* (quoting '355 Patent at col. 3:11–16) ("[L]abeling numerical values and calculating with externally-sourced numbers based on their labels were fundamental to conventional numerical analysis. For example, macros often manipulated numbers whose 'meaning' were labelled via 'indicators' nearby."). According to plaintiffs' factual allegations, however, the Court cannot reach such a conclusion at this early stage of the proceedings. *See, e.g.*, Compl. ¶ 21 ("Without the semantic relationship capabilities invented by the [asserted patents], a human could not unambiguously locate these recorded steps by hand."); *id.* ¶ 27 ("Without the [asserted patents'] claimed invention to semantically link the XML 'character data entities' . . . to external 'Second Documents,' a human would not have access to the selection, macro, output and document combination information contained in the 'Second Documents' needed to be able to perform these inventions by hand.").

The government further attempts to depict claim 2 of the '355 patent as nothing more than a computer implemented standardization practice. *See, e.g.*, Gov't MTD at 17 ("Tags for numerical values simply used a well-known XML feature."); *id.* at 17–18 ("by design, the XML standard allowed tags for 'numerical values'"); *id.* at 7 ("The concept of standardization, however, has been an age-old collective action problem. . . ."). Yet plaintiffs' factual allegations show something beyond the mere standardization of routine business practices. Plaintiffs' allegations, at the very least, create a question of fact as to whether the use of semantic tags paired with metadata was a well-known, conventional practice at the time of invention. *See, e.g.*, Compl. ¶ 16.a (creating a "dramatically different approach than previously used, which was to keep document metadata and data itself separate from each other"); *id.* ¶ 16.c (overcoming "the limitations of traditional spreadsheets which operate only at the cell (single number) level"); *id.* ¶ 17.a ("[p]rior art . . . did not provide any metadata . . . beyond simple display formatting"). Taking plaintiffs' factual allegations as true, unlike the claim language at issue in *IV I v. Erie*, claim 2 does "sufficiently recite how the inclusion of XML tags or metadata leads to an improvement in computer database technology through some 'non-conventional and non-generic arrangement of known, conventional pieces.'" *IV I. v. Erie*, 850 F.3d at 1329 (quoting *BASCOM*, 827 F.3d at 1349–50). At this early stage, plaintiffs present "plausible and specific factual allegations that aspects of the claims are inventive" sufficient to stave off a finding of invalidity under § 101. *Cellspin*, 927 F.3d at 1317.

Electronic Communication Technologies, L.L.C. v. ShoppersChoice.com, L.L.C. ("*Electronic Communication*") provides a recent Federal Circuit example similarly finding a step two failure. 958 F.3d 1178 (Fed. Cir. 2020). The claim at issue in *Electronic Communication* is illustrative of a claim that "is specified at a high level of generality, . . . and merely invokes well-understood, routine, conventional components and activit[ies]." *Id.* at 1183. The Federal Circuit concluded the claim was ineligible under § 101 "in part because 'nothing in the claim[] . . . requires anything other than off-the-shelf . . . technology for gathering, sending, and presenting the desired information.'"[10] *Id.* (quoting *Elec. Power Grp.*, 830 F.3d at 1355). Similarly, in

[10] The Federal Circuit summarized the claim at issue in *Electronic Communication* as follows:

> Claim 11 recites conventional computer components and "computer program code" that . . . (1) enables a first party to input authentication information; (2) stores the authentication information; (3) monitors the location of a mobile things [sic]; (4) initiates notification to the first party in advance or arrival of the mobile thing based in part on the location of the mobile thing; (5) provides

University of Florida, the claimed "system include[d] a 'bedside device' connected to the 'bedside machines' that 'convert[s] received data streams' from the bedside machines 'to a format independent of any particular bedside machine.'" *University of Florida*, 916 F.3d at 1366 (quoting '251 Patent at col. 6:64–7:4, 7:14–31). At step two, the patentee argued "the claims recite more than 'well-understood, routine, conventional activit[ies]' because the claimed 'converting' takes place at a location remote from the bedside machines." *Id.* at 1368 (quoting *Alice*, 573 U.S. at 221). The Federal Circuit found the representative claim at issue failed step two because it "provide[d] that 'the present invention . . . can be realized in a centralized fashion in one computer system or in a distributed fashion' or '[a]ny kind of computer system or other apparatus adapted for carrying out the methods described herein.'" *Id.* at 1369 (quoting '251 Patent at col. 13:27–33). The court concluded the claim at issue did nothing "more than simply instruct the practitioner to implement the abstract idea . . . on a generic computer." *Id.*

In finding a step two failure, the court differentiated claim 1 in *University of Florida* from the claims at issue in *BASCOM*. *Id.* In *BASCOM*, the Court found "the patent describe[d] how its particular arrangements of elements [were] a technical improvement over prior art ways of filtering such content." *BASCOM*, 827 F.3d at 1350. Similar to *BASCOM*, plaintiffs here plausibly allege sufficient factual allegations to support a specific technical improvement over the prior art sufficient to avoid a finding of patent ineligibility (at least at this early stage of proceedings). *See* '355 Patent at col. 56:40–56 (indicating the macro, comprising metadata and referencing a variable in a remote document, is received to "perform an operation on the series of numerical values"); Compl. ¶ 22; *id.* ¶ 17.a–b ("[p]rior art, as embodied in HTML and XML at the time of the filing of the [asserted patents], did not provide any metadata . . . beyond simple display formatting"); *id.* ¶ 17.b ("the selection of appropriate data formats and analytic routines could not be performed automatically by either human or machine."); *id.* ¶ 21 ("prior art did not provide for the encoding of the necessary metadata needed to ensure that . . . they would qualify for the application of the selected process."). Again, plaintiffs' factual allegations in the complaint are thus "plausible and specific factual allegations that aspects of the claims are inventive." *Cellspin*, 927 F.3d at 1317.

At oral argument, the government referred to specific portions of the specification to further allege how the claim limitation regarding "tags indicating characteristics of the numerical values" was nothing more than routine and conventional activity already known in the prior art. *See* Tr. at 97:3–100:11, 109:1–111:19. The government referenced a passage of the specification discussing the prior art:

> Another related problem is that numbers in spreadsheets have no measurement or semantic designators describing their meaning. One spreadsheet may work with dollars in millions, while another works with dollars in thousands. The same macro cannot be used on both spreadsheets without human intervention to sort out all the inconsistencies and to modify one of the spreadsheets to match the other.

> authentication information to the first party; and (6) enables the party to select whether or not to communicate with a second party having access to particulars of the pickup or delivery.

Electronic Communication, 958 F.3d at 1181.

'355 Patent at col. 3:5–11. Counsel for the government characterizes this passage as "talking about spreadsheets that work with numbers in dollars. 'Dollars' is the tag. So that's tagged numeric information." Tr. at 109:9–11. The government thus relies on this language from the specification as evidence of "a tag indicating the numerical value in that particular context," as "spreadsheets work with dollars in millions, while another spreadsheet works with dollars in thousands. In both contexts, the spreadsheet is working with tagged numerical data." *Id.* at 110:8–9, 111:4–7.

As the Court recognized,[11] and plaintiffs' counsel reiterated, this particular passage from the specification runs counter to the government's step two argument that the claims are nothing more than a recitation of routine or conventional activity previously known in the prior art. Plaintiffs' counsel articulated this disconnect in the government's argument as follows: "it's . . . stated that [the tags] absolutely have no measurement or semantic designations describing their meaning and how . . . one spreadsheet may work in the millions. . . . [T]he macro cannot be used in both spreadsheets because they're not compatible. Here, the macro, it can be in a different document because it's able to transform the numbers based on the tags." *Id.* at 112:14–22. Not only were the tags referenced in the specification not necessarily "semantic tags," but plaintiffs allege these macros were incompatible with previously available spreadsheets. Plaintiffs provided further clarity regarding additional claim limitations, including those in the final paragraph of claim 1: "[t]he claims . . . do not simply says 'tags.' They say 'tags indicating characteristics of the numerical value.' The claims, again, just don't say 'macro.' They talk about a whole bunch of things, where the macro has to be, how it has to act on the numbers based on the tags." *Id.* at 117:6–11.

Plaintiffs' characterization of the semantic tags and the macro are consistent with the claim language. The method of claim 2 requires a "a series of numerical values having tags indicating characteristics of the numerical values," wherein a macro comprises an arithmetic statement with a variable and "the variable is referenced in a local or remote document other than a document that contains the macro." '355 Patent at col. 56:36–53. Plaintiffs' counsel directly addressed the relationship between the tags and the macro at oral argument: "the macro cannot be used in both spreadsheets because they're not compatible. Here, the macro, it can be in a different document because it's able to transform the numbers based on the tags. . . . That's why the '355 [patent] is an advance." Tr. at 112:19–24. Such statements are directly in accord with the factual allegations pled by plaintiffs in the complaint. *See, e.g.*, Compl. ¶ 21 (noting the lack of "semantic relationship capabilities" in the prior art "did not provide for the encoding of the necessary metadata needed"). Accordingly, as the language of the specification and plaintiffs' complaint contain factual allegations that the asserted patents claim more than "well-understood, routine, or conventional activity" at the time of invention, the government's argument to the contrary fails at this early stage of proceedings. *Aatrix*, 882 F.3d at 1128.

[11] In response to government counsel's reference to the specification language at column 3 of the '355 patent, the Court noted: "with respect to the lines 6 through 11 [of column 3], it specifically says the same macro cannot be used on both spreadsheets without human intervention to sort out all the inconsistencies. It seems like this is specification language related to how the claims are an improvement." Tr. at 110:13–18.

f. Further Thoughts on *Alice*/*Mayo* Step Two: Patent Eligible Categories

Scholars have further attempted to discern what is required to claim specific improvements in computer technology sufficient to survive step two of *Alice* when facing a Rule 12 motion under § 101. Robert Garza, reviewing *Mayo* and *Alice* and their impact on the Federal Circuit's § 101 jurisprudence—particularly with respect to software patents—examined the four "major software cases decided by the Federal Circuit in the years since [] *Alice*." Robert D. Garza, *Software Patents and Pretrial Dismissal Based on Ineligibility*, 24 Rich. J.L. & Tech. 1, *6 (2018). Garza classified these decisions into three patent-eligible categories: "(1) claims that are 'rooted in computer technology'—they solve something new; (2) claims that focus on improvement of the computer technology; (3) and claims that have a specific order to the limitations." *Id*. at *88. Garza derived category two in part from *Enfish*, and further clarified this category using two recent district court opinions. Category two emphasizes that when software makes "non-abstract improvements to existing computer technology," it may be patent-eligible:

> Category two claims relate to improvements in existing computer technology. . . . In *InfoGation Corp. v. ZTE Corp.*, there was a technological problem with the local storage information for navigational systems and real-time data. The patentee was able to successfully survive a 12(c) dismissal because they argued the claims were directed towards a specific improvement that "advance[d] over the prior art." . . . In *Finjan Inc. v. Sophos, Inc.* . . . [t]he court found that the patent was specific enough to transform the abstract idea into patent-eligible subject matter. The patentee successfully argued that the patent had provided a "specific technical solution to assist in protecting computer networks from hostile downloadables . . . ," which security systems could not previously do.

Id. at *92–*94 (citing *InfoGation Corp. v. ZTE Corp.*, No. 16-1901, 2017 WL 1135638 (S.D. Cal. Mar. 27, 2017)); *Finjan, Inc. v. Sophos, Inc.*, No. 14-01197, 2015 WL 5012679 (N.D. Cal. Aug. 24, 2015)).

According to plaintiffs, the asserted patents implemented a "dramatically different approach than previously used" in the "[p]rior art, as embodied in HTML and XML at the time of the filing of the [asserted patents], did not provide any metadata . . . beyond simple display formatting." Compl. ¶¶ 16.a, 17.a. Plaintiffs assert "[w]ithout these attributes and characteristics, it was not possible for a human or a computer to select, process, combine or output data elements without resorting to human intervention." *Id.* ¶ 17.a. Plausible factual allegations such as these are consistent with those necessary to create a factual dispute as to whether the additional claim elements transform the nature of the claim into one that is patent-eligible, namely one that is a specific "non-abstract improvement[] to existing computer technology." Garza, 24 Rich. J.L. & Tech at *92.

The Court thus finds plaintiffs plausibly presented sufficient factual allegations that, when taken as true, as they must at this stage, present an inventive concept divorced from the abstract idea itself which was neither routine nor conventional at the time of invention. *Cellspin*, 927 F.3d at 1317.

g. Need to Address Further Claims

Plaintiffs have plausibly alleged sufficient factual allegations that, when taken as true, present an inventive concept divorced from the abstract idea itself such that this litigation must proceed at least with respect to claim 2 of the '355 patent. *See Iqbal*, 556 U.S. at 678 ("A claim has facial plausibility when the plaintiff pleads factual content that allows the court to draw the [necessary inferences]."). As claim 2 of the '355 patent passes muster at the Rule 12 stage under § 101, the Court sees no reason to further analyze the remaining claim groups at this early stage of proceedings. *See Sci. Applications Int'l Corp. v. United States*, 135 Fed. Cl. 661, 664 n.1 (2018) (finding it "unnecessary to designate the representative claims at this stage" when evaluating a Rule 12 motion under § 101 as the claims "discussed in the briefing [were] sufficient to hold that plaintiff's patents claim eligible subject matter"). Such analysis is particularly disfavored given the procedural concerns associated with such a potentially premature review of patent eligibility. *See, e.g.*, *Slyce Acquisition*, 2020 WL 278481, at *5 ("because a patent is presumed valid and requires clear and convincing evidence to provide its invalidity, a Rule 12(b) motion to dismiss is a procedurally awkward place for a court to resolve a patent's § 101 eligibility"); *id.* at *6 ("it is wiser and more efficient to wait to determine a patent's § 101 eligibility until after fact discovery has opened" and "after issuing its claim construction order") (emphasis omitted). Nothing in this opinion and order shall be construed as prohibiting the government from seeking to revisit the patent eligibility of the asserted claims under § 101 following claim construction and at least some fact discovery. The Court does, however, "encourage the parties to stipulate to the representative claims." *Sci. Applications Int'l*, 135 Fed. Cl. at 664 n.1.

V. Conclusion

Although the parties have not yet stipulated to a representative claim or claims, the Court finds that at least claim 2 of the '355 patent passes muster under *Alice*/*Mayo* such that the government's motion to dismiss must be denied. At step one, the Court finds claim 2 of the '355 patent directed to an abstract idea. At step two, despite the claim being directed to an abstract idea, plaintiffs pled sufficient factual allegations at this early stage of the proceedings to maintain a factual dispute regarding whether the additional claim elements transform the nature of the claim into one that is patent-eligible.

As claim 2 of the '355 patent passes § 101 muster at this early stage of proceedings, the Court does not consider the remaining claims of the asserted patents with regards to the government's motion to dismiss. For the reasons set forth above, the government's Motion to Dismiss Under Rule 12(b)(6) is **DENIED**. Pursuant to RCFC 12(a)(4), the government shall answer plaintiffs' complaint within 14 days of this opinion and order, on or before **21 August 2020**. As the parties confer regarding the joint preliminary status report pursuant to RCFC 3, the Court encourages the parties to contemplate a schedule similar to that of Judge Albright in the United States District Court, Western District of Texas (Order Governing Proceedings – Patent Cases, latest version).

IT IS SO ORDERED.

s/ Ryan T. Holte
RYAN T. HOLTE
Judge